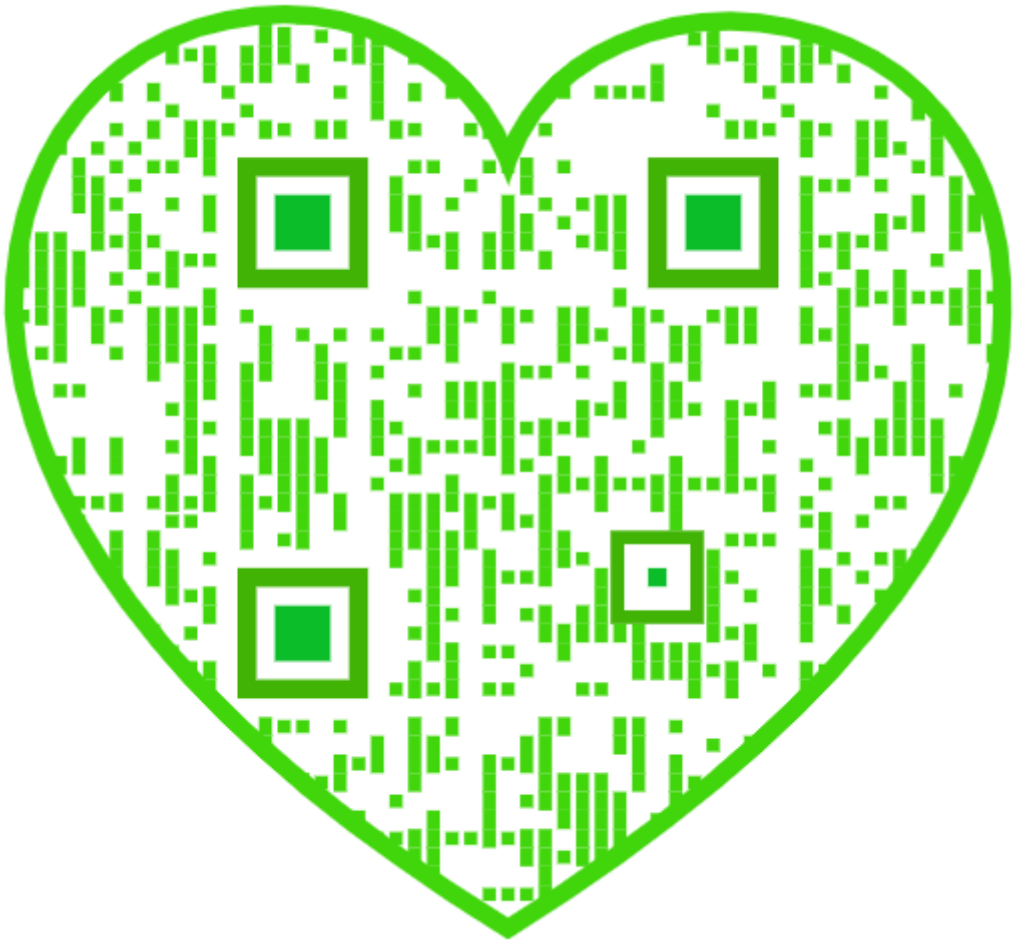

The Excellency of The PEN and PENCIL.

London Printed for Rich: Jones & Dorman Newman and are to sold at their shops at the Golden Lyon and Chyrurgions Armes in Britaine.

THE EXCELLENCY OF THE Pen and Pencil,

EXEMPLIFYING

The Uſes of them in the moſt Exquiſite and Myſterious Arts of

DRAWING, ETCHING, ENGRAVING, LIMNING, } { PAINTING in OYL, WASHING of Maps & Pictures.

Alſo the way to Cleanſe any Old Painting, and Preſerve the Colours.

Collected from the Writings of the ableſt Maſters both Ancient and Modern, as Albert Durer, P. Lomantius, *and divers others.*

Furniſhed with divers Cuts in Copper, being Copied from the beſt Maſters, and here inſerted for Examples for the Learner to Practice by.

A Work very uſeful for all Gentlemen, and other Ingenious Spirits, either Artificers or others.

LONDON:

Printed for *Dorman Newman*, at the *Kings-Arms* in the *Poultrey*, M DC LXXXVIII.

To the

READER.

AMong the many Operations of Mysterious Nature, the Intellectual Part of Man hath no equal: Among the multifarious Productions of Man's Understanding, the Art of LIMNING *is by none excelled; whether we consider the Grandeur of Spirit therein expressed, or the Ingenious Delight thereby acquired. What Ray of the Great Creator's Image is more conspicuous in the Soul of Man, than that of Intense Desire to produce Creatures of his own? And wherein is that Inclination so compleatly answered, as by Delineating the Workmanship of God in Artificial Resemblances contrived and wrought by his proper Wit? Nor can any Satisfaction equal what is derived from the Perfection of these Designs. Are the Proportions exact? How strongly do they attract the Eye? Be the Shadowings accurate? How strangely do they affect the Mind? But if the Artist hath stoln so much of* Promethean *Fire as to add the Excellency of Life to well-disposed Lineaments, representing the Native Air and sprightly Gesture of the Person* in vivo;

How unspeakably doth he gratify both?

To exercise this Faculty, and comply with this Fancy in Man, is this little Tract compiled, in Five Books.

The First *lays down the Primordial Rudiments of the Art of* Drawing *with the Pen and Pastils: in a due and orderly Method proposing the Description of Man's Body in its distinct parts, presenting sundry Draughts of them in the plain Circumferential Lines, and giving Directions for the Proper Shades, as of Naked Bodies, so of Drapery; by Instructions and Copies so easy and intelligible, that the meanest Capacity need not doubt to undertake the Drawing of that Admirable Fabrick, and arrive to the Perfection of this Mystery in exact Symmetry, suitable Proportions, and enlivening Postures, if well perus'd and practised. For which purpose also certain Geometrical Rules, Definitions, and Figures are inserted, to exemplify and adorn this Mistress of Proportion; in the Accomplishing whereof that nothing may be defective, some succinct Advertisements concerning Landskip are added in the Close.*

Having premised these more plain and easy Fundamentals, the Second *proceeds to discover the Secret and Ingenious Skill of* Etching *with* Aqua fortis; *where the most perspicuous and familiar Ground possible is described, and Prescriptions for carrying on and perfecting that Work, no less Rational, annexed. And forasmuch as some may perhaps take more pleasure in, or reap more Profit from that of* Graving: *you have the Instruments most Necessary in that kind, and the Manner of Using them most Convenient, particularly demonstrated: Together with that abstruse Slight of*

transferring

transferring the Copy upon the Copper.

But because this alone may seem barely Mechanick, that which suits with the most Gentile, and cannot derogate from the most Honourable, is offered in the Third : *where the Requisites for* Limning in water-Colours *are deposed, the Gums and their Waters in few words digested, the Colours particularly nominated, and the true way to prepare and compound them specified : All which are but as so many Degrees and Ingredients to approach and accomplish the desirable and ultimate Design of Miniture : for the Practice whereof you are throughly furnished with the Choice of the meetest Light, Position, and Implements at hand by the particular Description of Drawing a Face to the Life* in little , *according to its duly Methodized Progress at the first, second, and third Sitting ; not omitting the Ornament thereunto pertaining.*

And to supply the Fading and Decay of these, the Fourth *delivers Rules and Directions for* Painting in Oyl, *answerable to that depth of Judgement required in that more durable kind of Operation; naming the proper Colours, and declaring its peculiar Utensils, with accurate instructions how to temper and diversifie the former, for all Complexions and Garments, of what variety soever : and to use the later in the Artificial Painting of a Face, the only Exemplar prescribed, because it includes all the Art and Difficulty of this Science.*

The Fifth, *and last, displays a pretty superficial Experiment : imparting what Colours and other Necessaries are best fitted for the* Washing or Colouring of Maps and Printed Pictures : *And, to help the di-*

divers Exigencies that concern this Affair, some Expedients put a Period to the whole Work.

Plainness and Brevity (which may procure Contempt from the Nice or Vulgar) are sufficient to recommend this Piece to ingenious aspirers after any of those Excellencies therein taught; since they have done the Art and Artist Right, in Rescuing both from such obscure Intricacies and voluminous Impertinencies as would discourage the one, or disparage the other: And these Muniments have so justly prevented all Censure, that nothing can suggest the least Imputation of Difficulty but want of Diligence; nor any one surmise it Tedious, but the Slothfull.

Farewell.

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The

OF
DRAWING.
The First BOOK.
PART. I.

The Introduction.

DRAWING *consists of several General precepts to be learnt of every one that is desirous to attian to Perfection therein; the practice of which requires* Observation, Discretion, *and* Judgment; *in which,* Proportions, Motions, *and* Actions *are with great care and diligence to be followed: And therefore he that will attain to the perfection of this excellent Practice, it is necessary he should not be ignorant of* Mathematical *Demonstration in the Rules of* Geometry *and* Perspective; *of which in this Book you shall receive Instructions. Of all other proportions, the Body of man hath the pre-eminence for excellency, from which all other Arts are derived, as many of the Learned have concluded; for* Vitruvius *noteth, that the Architect hence took the observations of his Buildings, Man being the first pattern of all Artificial things: and Antiquity hath so graced* Painting, (*as being the chief Mistress of Proportion*) *so that all other Artificers are called Handy-crafts or Mechanicks.*

CHAP. I.

A deſcription of all the External parts of Man's Body.

SECT. I. *Of the HEAD.*

IN Man's body the higheſt part is the *HEAD*; the fore-part is called the *Fore-head*; the turning of the Hair, the *Crown*; the root of the Hair above the Fore-head, the *Center*; the parting of the Hair, (eſpecially of Women) is called the *Seam*.

The *Forehead* containeth all the ſpace between the root of the Hair before, and the Eye-brows: The *Pulſe* is the higheſt part of the Forehead, ending with the Hair: *Metone* is the ſwelling out in the Forehead above the Eye-brows: The *Temples* lye betwixt the Pulſe, the Forehead, and the Ear.

SECT. II. *Of the EAR.*

THe *EAR* turns between the Temples, the upper part of the Cheek, and the root of the hair; by the ſide of the head the lower part is called the *tipp*, in the midſt whereof is the hole where the ſound entreth in.

SECT.

SECT. III. *Of the EYES.*

THe *EYE-BROWES* are those thick hairs at the bottom of the Forehead: The *upper eye-lid* is that little part which compasseth the upper part of the Eye: The *Eye* is that round ball which is contained between the upper and lower Eye-lids: the *black of the Eye* is the round spot in the midst of that little circle, by virtue whereof we see, and is called the *apple* or *sight of the Eye*: the outward corner of the eye is next the ear, the inner is toward the nose; all the space between the upper eye-lid and the outward corner of the eye, & the whole turning of the eye to the upper part of the cheek, is called the *case* or *hollow of the Eye*.

SECT. IV. *Of the NOSE, MOUTH, CHIN, NECK, and THROAT.*

THe *NOSE* is between the cheek, descending from betwixt the eyes, and endeth at the nostrils which hang out on each side at the bottom thereof, each whereof hath an hole or passage, whereby we smell.

The lower end of the Nose which standeth forward is call'd the *top* or *point*, the rising in the midst the *ridge* or *gristle*; the upper Cheek is that space between the ear, the hollow of the eye, the nose,

and the lower Cheek; whereof the part rising towards the eye, is named the *ball*: the lower Cheek is bounded with the upper, the *nostrils*, the *mouth*, the *chin*, to the *throat* and the *neck* under the *ear*: the *Upperlip* is that red piece of flesh above the mouth.

The *MOUTH* is that division between the upper and nether lips, which is red like the other; that concavity which cometh down from the bottom of the Nose to the upper lip, is the *gutter of the Nose*.

The *roof* of the mouth is called the *pallat*; the *tongue* is that which moveth in the mouth; the passage between the lungs and the mouth is call'd the *Wind-pipe*, through which the breath passeth; the *gum* is that piece of flesh in which the teeth are fastned; the four first whereof are called *dividers*, next unto which on each side are the *dog-teeth*; the other five on each side with their roots, are the *grinders* or *cheek-teeth*, so that the full number of Teeth is thirty two.

The *CHIN* or place of the *beard*, is the extremity beneath the lip and the end of the face, whose beginning is the root of the hair.

The hinder part of the head under the crown is called the *nape*, where the hairs grow; behind is the beginning of the neck.

The *THROAT* is between the chin and the beginning of the body or trunk, in the midst whereof is that rising called the *throat-bone*; the concavity of the neck before, between the end of the throat and the beginning of the breast, is the *throat-pit*.

The

The *NECK* is that part behind between the root of the hair and the beginning of the back-bone, which on either side is joyned with the throat, and at the lower end of the neck with the shoulders, whereof the bone in the midst is called *astragalus*, or the bone that knits the neck with the shoulders; the whole trunk or body before, containeth the upper fork of the stomach or breast, which begins at the end of the throat-pit.

SECT. V. *Of the FORE-PART of the Body.*

THe fore-part of the body, as the *Breasts*, or *Paps*, end with the short ribs, and they are called the part under the paps, and in Women are called *duggs*, the heads of which whence the milk is suckt out, are called *Nipples*; the space between the breasts or dugs at the lower fork of the breast, is the chest; the *arm-pits* are the hollows under the arms, where the hairs grow.

The Short-ribs begin at the end of the paps, and reach to the flanks near the belly; the Flanks begin at the end of the breast, and are called the *Waste*: the upper part of the belly lies between the hollow of the breast, the waste above, the navel, and the ribs: the knitting of the intrails is called the *Navel*.

The *Paunch* lieth between the waste, the privities, and the flanks, and is also called the *Belly*: especially in Women, where the hairs grow under the

belly, is the Privities; the hollow compaſs at the top is called *Corona*, the place which the urine paſſeth through is called the *Hole*, thē Two little balls that hang under the Yard, the *Stones*, the Privities of a Woman are called, *&c.*

SECT. VI. *Of the HINDER-PART of the BODY.*

THe hinder part of the Body called the *Back* or *Chine*, conſiſts of the *Shoulder-blade*, which is the part behind the ſhoulders end, with part of the chine and loyns; the reſt of the back reacheth down along from the neck to the beginning of the cleft of the buttocks, the loyns lye between the ſhoulder-blades; the *ribbs* and the reſt of the chine to the *reins or waſte*.

The *REINS* reach from the loyns to the buttocks, and do properly belong to the part below the Waſte.

The *BUTTOCKS* are that fleſhy part which ſerve us for ſitting.

SECT. VII. *Of the ARMES, HANDS, and FINGERS.*

THe *Arm* contains the ſhoulder, behind which is the back, beginning between the neck and throat, and reacheth to the ſhoulder-blade, behind which place is properly called the *Back*; the

par

part of the arm from the elbow upward, is called the *upper brawn* of the arm; the *Elbow* is the bowing of the arm, the inside whereof is the *Joynt*; and at the lower part of the arm begins the *Wrist*, where the arm is joyned to the hand, the *palm* is the inside of the hand between the wrist and the fingers, the *thumb* is the biggest and shortest of the fingers.

The *Fore-finger* is next to the *thumb*, the *middle-finger* is that which stands in the midst, and is longer then the rest; next unto this is the *Ring-finger*, the *ear-finger* or *little-finger* is the least and last.

The *Joynts* of the fingers are even in number, *viz.* three upon each, except the thumb, which hath but two.

The hinder part of the arm reacheth from the end of the shoulder or arm-pit to the elbow, where the second part of the arm beginneth, reaching to the wrist-joynt.

The Back of the hand reacheth from the wrist to the first joynts of the fingers, and is called *Pecten*, the spaces between the joynts are call'd *Internodi*, which are two upon each finger, except the thumb, which hath but one; in the space between the last joynt and the top of the finger is the Nail, whose bowing is called *Corona*, (I mean where it toucheth the flesh or skin.)

The whole hand begins at the wrist, and reacheth to the top or extremity of the fingers.

SECT. VIII. *Of the LEGS, FEET, and TOES.*

THE *LEG* consists of these partts; the *thigh*, which begins at the trunk of the body, and ends at the *knee*; the hollow of the thigh is the inner side below the *privities*; the *knee* begins at the round bone at the end of the thigh, and reaches to the beginning of the shin-bone; the *instep* begins at the end of the shin-bone, and reaches to the beginning of the *toes*, and is called the *upper part of the foot*; the *ancle* is that bone which buncheth out on each side between the instep and beginning of the heel.

The *Small of the leg* is the space between the end of the two calves above, and the ancle, instep, and heel below; the *Pit of the foot* is the hollow under the hill or higher bunch of the foot towards the soles.

The *TOES* have also joynts as the fingers, though they be somewhat shorter, and have also *nails* in like manner, and are otherwise called, as 1. 2. 3. 4 5.

The *hinder part of the leg* begins under the buttock and is called the *thigh*, and endeth at the hinder part of the knee, called the *hamme* or *bending*; the *calves of the legs* begin under the ham, and are two upon each leg; the outward, which endeth somewhat high; and the inward, which endeth nearer to the small of the leg, which diminisheth by

by degrees to that part a little above the ancle; the *heel* is that part of the foot which riseth out backwards, reaching from the end of the leg to the bottom of the foot, called the *Sole*, which beginneth at the end of the heel, and reacheth to the top of the toes, containing likewise the spaces between the joynts underneath orderly. Thus much for the External parts of Mans Body; all which are deciphered in the Sculptures following.

CHAP. II.

Of Actions, Gestures, Decorum, Motion, Spirit, and Grace in Pictures rightly resembled.

SECT. I. *Of Actions or Gestures.*

THese are those that most nearly resemble the life, be it either in laughing, grieving, sleeping, fighting, wrastling, running, leaping, and the like.

Amongst the Ancients, famous for lively motion and gesture, *Leonard Vincent* deserves much, whose custom was to behold clowns, condemned persons, and did mark the contracting of their brows, the motions of their eyes and whole bodies; and doubtless it cannot but be very expedient for an Artist in this kind to behold the variety of exercises, that discovers various actions, where the motion is discovered between the living and the dead, the fierce and the gentle, the ignorant and learned, the sad and the merry.

John

John de Bruges was the first inventer of Oyl-painting, that deserv'd excellently in this particular.

SECT. II. *Of the Passions or Complexions.*

MAn's Body is composed of the Four Elements.

Melancholly resembles *Earth.*

Flegm the *Water.*

Choler the *Fire.*

Bloud the *Air*; and answerable are the Gestures and Humours.

Melancholy bodies are slow, heavy, and restrained; and the consequents are anxiety, disquietness, sadness, stubbornes, *&c.* in which horror and despair will appear.

Flegmatick bodies are simple, humble, merciful.

Sanguine bodies are temperate, modest, gracious, princely, gentle, and merry; to whom these affections of the mind best agree, *viz.* love, delight, pleasure, desire, mirth, and hope.

Cholerick bodies are violent, boisterous, arrogant, bold, and fierce; to whom these passions appertain, anger, hatred, and boldness; and accordingly the skilful Artist expresses the motions of these several bodies, which ought Philosophically to be understood.

Now to proceed according to our promised Method, to the Practical part; and here first the Learner must be provided with several Instruments.

CHAP.

CHAP. III.

Of neceſſary Inſtruments appertaining to Drawing.

1. SAllow coals ſplit into the forms of Pencils, which you may beſt have of thoſe that ſell Charcoal ready burnt for your uſe; theſe are to be prepared by ſharpning them at the point; their uſe is to touch over your Draught lightly at the firſt: you may know Sallow coals from others by the fineneſs of their grain.

2. You muſt alſo have a Feather of a Ducks wing, with which you may wipe out at pleaſure what you deſire to alter in your Draught.

3. Black-lead Pencils, to go over your Draught more exactly the ſecond time.

4. Pens made of a Ravens quill, to finiſh your deſign; which will ſtrike a more neat ſtroke than the common quill: but you muſt be very exact here, for there is no altering what you do with the Pen.

5. A Rule and a pair of Compaſſes with three Points to take in and out; one for Chalk, another for Black-lead, or red Chalk, or any other Paſte. The uſe of the Compaſſes is required in moſt things you draw, which you are to uſe after your out-ſtroke is done, by trying how near your Draught and Pattern agree, and this being only toucht out in Charcoal, you may alter at pleaſure.

6. Paſtils

6. Paſtils made of ſeveral Colours, to draw upon coloured Paper or Parchment, the making whereof is as followeth.

How to make Paſtils of ſeveral colours.

Take the Colour that you intend to make your Paſtil, and grind it dry, or rather only bruiſe it ſomewhat fine; to your Colour (whatſoever it be) add a reaſonable quantity of Plaiſter of *Paris* burnt and finely ſifted, mix and incorporate the Colour and Plaiſter together with fair Water till it be ſtiff like Clay or Dough; then take it and rowl it between your hands into long pieces, about the bigneſs of the ſhank of a Tobacco-pipe, then lay them in the Sun or Wind to dry. They being thus dryed, are ready for uſe, being finely ſcraped to a very ſmall point; and if they be ſhort, put them into an ordinary Gooſe-quill to lengthen them.

And here note, that you may by this means make Paſtils of what Colour you pleaſe, either ſimple or compounded, if you know what ingredients and mixture will make ſuch a Colour as you deſire; which you will underſtand in the third Book, where we treat of the Mixture of Colours. And further obſerve, that the Plaiſter of *Paris* is only to bind the Colours together; and therefore according as your Colour or Colours you are to make are more hard or more ſoft, you muſt add the greater or leſſer quantity of Plaiſter.

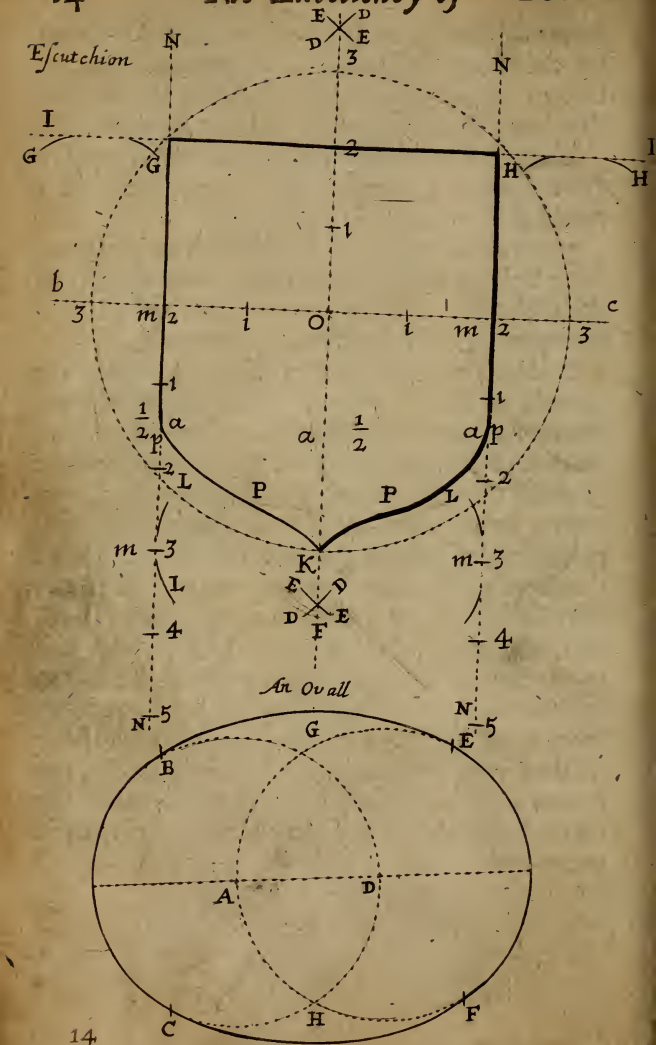
By this means of tempering and mixing ſeveral Colours together, you may make (indeed) whatſoever

ſoever colour you pleaſe; as all manner of Colours for the Face or Bodie of Man or Woman, all kind of Greens for Landskip, for Rocks, Skies, Sun-beams; all colours for Buildings, with their Shadows.

Theſe Paſtils are very fine and commodious for drawing upon coloured papers, and therefore I would have you,

7. Provide your ſelf alſo of fine Blew paper; ſome light-coloured, other-ſome more ſad; as alſo with Paper of divers other colours, which now is very common to be ſold in many places.

8. Have alwayes in a readineſs by you the Crumbs of fine Manchet or White-bread; the uſe whereof is, when you have drawn any thing with Black-lead that diſliketh you, you may ſtrew ſome of theſe Crumbs upon the defective member, and with a linnen cloth rub it hard upon the defective place, and it will fetch out the Black-lead, and leave the Paper or Parchment fair and white. It is alſo uſefull when you have finiſhed a piece, either Head, Leg, Arme, or whole Bodie with Black-lead, and would trace it over with Ink to finiſh it, the Black-lead will be ſeen in many places, being thicker then the line of your Pen; wherefore when you have finiſhed your Drawing with Ink, and that dry, rub it over with theſe Crumbs, and it will not only take off the ſuperfluous Black-lead, but all other ſpots of your Paper.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A way to Draw an Escutcheon Geometrically.

FIrst strike a Circle at pleasure, as your occasion requires.

Then strike the Diameter as B C, then set one foot of the Compasses in B, and strike the crooked lines D D and D D, then keeping the Compasses at the same distance, strike the other crooked lines E E and E E, then where they do interfect as F F, there strike the cross Diameter, then divide the upper Semidiameter into three parts, and take two of them, there make the Cross-line, by setting one foot of the Compasses in B, and make the crooked line G G, then at the same distance make the crooked line H H, by setting them in C, then strike the line I I, then measure two or three of those parts, and set off towards B and C, then set the Compasses in K, and strike the lines L L and L L, then set the Ruler in M M and M M, and strike the lines in N N and N N, and divide the lower Semicircle in two equal parts, then set the Compass in O, and strike the lines P P and P P from A A, then measure from M N downwards, five of those parts of the upper measure, then set the Compasses at N 5 and N 5, and strike the lines K P and K P, and you have your desire.

To Draw a Geometrical Oval.

THis Oval is drawn by drawing two equal Circles, then set the Compasses in D, and strike the

the Arch B C, and at the ſame diſtance ſet them in D, and ſtrike the Arch F E, then ſet them in G, and ſtrike the Arch C F, then ſet them in H, and ſtrike the Arch B E.

Some Geometrical Definitions.

1. A Point is void of magnitude.

2. A Line is a length without breadth or thickneſs; and of the three kinds of magnitudes in Geometry, *viz.* Length, Breadth, and Thickneſs, a Line is the firſt.

3. The ends or bounds of a Finite-line are points; but in a circular Line, the points motion returns to the place where it firſt began, and ſo makes the Line infinite, and the ends or bounds undeterminate.

4. A Right-line lyeth equally betwixt his points.

5. A Superficies hath onely Length and Breadth.

6. A plain Superficies is that which lyeth equally between his Lines.

7. A plain Angle is the inclination, or bowing of two Lines the one to the other, the one touching the other, and not being directly joyned together: an Angle commonly ſigned by three Letters, the middlemoſt whereof ſhews the Angular point.

8. If the Lines that contain the Angle be right Lines, then it is called a Right-lined Angle.

9. When a Right-line ſtanding upon a Right-line, makes the Angles on either ſide equal, then either of theſe Angles is a Right-angle, and Right-line which

which ſtands erected, is called a Perpendicular Line to that wherein it ſtands.

10. An Obſtruſe-angle is that which is greater than a Right-angle.

11. An Acute-angle is leſs than a Right-angle.

12. A Limit or Term is the end of every thing.

13. A Figure is that which is contained under one Limit or Term, or many, *viz.* a Round-line, three Right-lines, four Right-lines, five Right-lines, *&c.*

14. A Circle is a plain figure contained under one Line, called a Circumference.

15. A Diameter of a Circle is a Right-line drawn by the Center thereof, and ending at the Circumference.

16. A Semi-circle is a figure contained under the Diameter, and that part of the Circumference cut off by the Diameter.

17. A Section or portion of a Circle, is a figure contained under a Right-line, and a part of the Circumference greater or leſs than a Semi-circle.

18. Right-lined figures are ſuch as are contained under Right lines.

19. Three-ſided figures are ſuch as are contained under three Right lines.

20. Four-ſided figures are ſuch as are contained under four Right lines.

21. Many ſided figures are ſuch as have more ſide than four.

22. All three ſided figures are called Triangles.

23. Four-ſided figures a Quadrater; a Square is that whoſe ſides are equal, and his Angles right.

24. A Long-ſquare is that which hath right Angles, but unequal Sides.

25. A Rhombus is a figure having four equal Sides, but not right Angles.

26. A Rhomboides is a figure whoſe oppoſite Sides are equal, and whoſe oppoſite Angles are alſo equal, but it hath neither Sides, nor equal Angles.

27. All other figures of four ſides, beſides theſe, are called Trapez, as ſuch are all figures of 4 ſides in which is obſerved no equality of Sides or Angles.

28. Parallel or equi-diſtant Right-lines are ſuch, which being in one and the ſame Superficies, and produced infinitely on both ſides, do never in any part concur, but ſtill retain the ſame diſtance.

CHAP. IV.

Of the firſt Practice of Drawing.

SECT. I *Of Geometrical Figures.*

BEing provided of all neceſſary Inſtruments for Drawing, proceed to Practice; and firſt begin with plain Geometrical figures, ſuch as the *Circle*, *Oval*, *Square*, *Triangle*, *Cone*, *Cylinder*; all which your Rule and Compaſſes will help you in: but firſt endeavour to draw them by hand, which with a little practice you may attain. I have my ſelf, by taking a Black-lead Pencil in my hand, and holding it as I do a Pen, and reſting the end of my little

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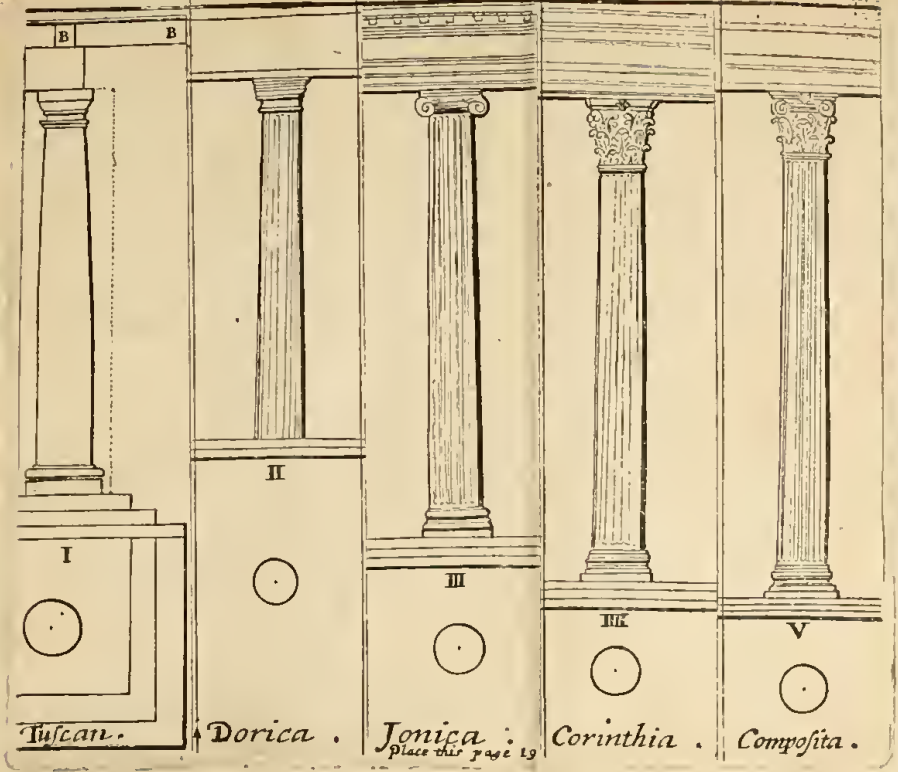

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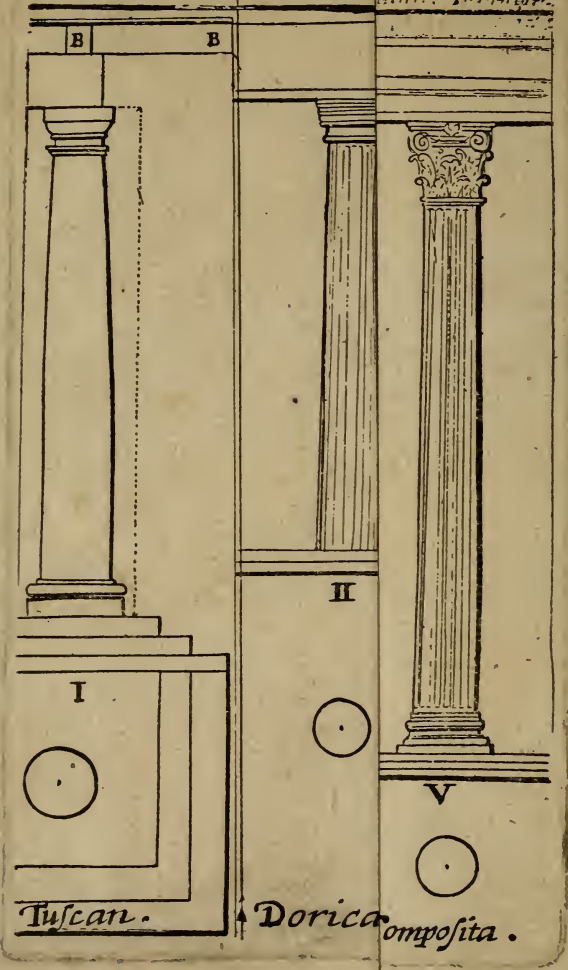
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little finger upon my paper, turning the paper about with my left hand, and have described a Circle so exact, that a pair of Compasses could not discover an errour: I say, practice the making and drawing of these by hand, for they are all useful in one kind or other. *Example.*

The *Circle* will help you in all *Orbicular forms*; as, the *Sun* in its glory, the *Moon* either *full* or *crescent*, and infinite other Circular shapes. The *Oval* is a direction for the *Face*, for the *mouth* or *foot* of a *wine* or *beer-glass*, the *mouth* of a *well*, &c. The *Square* is assistant to you in confining your Picture you are to copy, and keeping it within bounds. The *Triangle* for the half-face, as in the Figures following, you will easily discern. The *Cone* will help you in drawing of *Flute Colasses*, now much in fashion; as also in *Spire-Steeples* and tops of *Towers*. The *Cylinder* will be of good use in drawing of all manner of *Columns*, *Pillars* and *Pilasters*, with their *Ornaments*. These (indeed) are so useful, that hardly any thing can be effected in which they are not ingredient.

And now, since it falls in my way so opportunely; I will insert the sign of the five Orders of Architecture, that you may know them when you see them either painted, or built in Brick or Stone.

Place here the Five Columns *of Architecture.*

SECT. II. *Of the second practice of Drawing.*

HAving practiſed theſe Figures, proceed to the drawing of *Cherries*, *Pears*, *Apples*, *Apricocks*, *Peaches*, *Grapes*, *Strawberries*, *Peaſcods*, *Butterflies*, and ſuch like.

SECT. III. *Of the third Practice.*

IMitate *Flowers*, as *Roſes*, *Tulips*, *Carnations*, &c. Alſo Beaſts, firſt the more heavy and dull, as the *Elephant*, the *Bear*, the *Bull*, the *Goat*, the *Sheep*, &c. Then them more fleet and nimble, as the *Stag*, the *Hart*, the *Nag*, the *Unicorn*, and the like. Then practice *Birds*, as the *Eagle*, the *Swan*, the *Parrot*, the *King fiſher*, the *Partridge*, the *Pheaſant*, and ſuch like. Then *Fiſhes*, as the *Whale*, *Salmon*, *Herring*, *Pike*, *Carp*, *Thornback*, *Lobſter*, &c. Of all which there are Books to be bought at very reaſonable rates.

SECT. IV. *Of the fourth Practice.*

IMitate the Body and Parts of the Body of Man; in the practice whereof beware of the common errors uſually committed, as of drawing the Head too

too big for the Body, and others the like ; which to prevent, you have here presented to your view the *Heads*, *Noses*, *Mouths*, *Hands*, *Arms*, *Feet*, *Legs*, *Bodies*; also *whole Figures of Men*, *Women*, and *Children* in several postures, being Copies of the best Masters extant, with Rules and Directions for Drawing every particuler member of the Body, and that I would have you now to practice, you having gone sufficiently forward with the others before noted.

CHAP. V.

Directions for Drawing the Body of Man or Woman.

SECT. I. *General Rules for Drawing the Face.*

IN Drawing the Face, observe its motion whether forward, upward, downward, or sideways, by your Eye ; touch lightly the features where the Eyes, Nose, Mouth, and Chin should stand, and then go over them more perfectly. The Circle, Squares, and Triangles that are used in a Face, serve to guide your judgment where to place the several features.

Observe dilligently the principal Muscles of a Face, these appear most in an aged man or womans face.

There is usually a three-fold proportion observed

in a Face: 1. From the top of the Fore-head to the Eye-brows: 2. From the Eye-brows to the bottom of the Nose: 3. From thence to the bottom of the Chin; but in some the Fore head is lower; others Noses are longer.

The Distances between the Eyes, is the length of one Eye in a full face; but in a three-quarter, or side face, the distance is lessened answerable.

The Nostril ought to be plac'd exactly against the corner of the Eye.

In a fat face you will perceive the Cheeks swell, in a lean Face the Jaw-bones stick out, and the Cheeks fall in.

A smiling countenance is discerned by the Mouth, when the corners of the Mouth turn up a little.

A frowning countenance is discerned in the Fore-head, Eye-brows, bending and somewhat wrinkling about the top of the Nose, *&c.*

SECT. II. *To draw a fore-right Face.*

MAke the form of a perfect Oval divided into three equal parts by two Lines; in the first part place the Eyes, in the second part the Nostrils, and in the third part the Mouth.

Note, that the Eyes must be distant one from the other the length of one of the Eyes, and that their inner corners be perfectly over the out-side of the Nostrils.

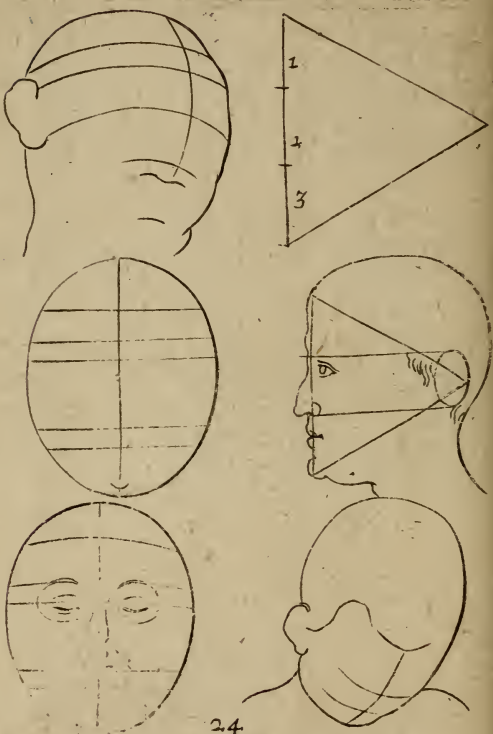
SECT.

SECT. III. *To draw an Up-right Head.*

WHich is made with three Lines equal every way, either upwards, downwards, higher or lower; and that muſt be divided as the former into three equal parts, as in the Example.

SECT. IV. *Of the inclining and Foreſhortned Face.*

THis is plainly ſeen by the Lines, how they concord together, and you may with facility draw in their proper places, the Noſe, Mouth, and other parts with a little practice, and obſerving diligently the Example following.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In theſe Forms you muſt be very perfect, it being a Rule that in moſt Faces you may have occaſion to make uſe of: for of all the parts of Mans body the Face is the moſt difficult. But having got the Proportions with their Meaſures, you will be able (which way ſoever a Face turns) to form it out, whatever proportion your Face is, you are to imitate, ſo muſt your out-ſtroke be formed, whether long, round, fat, or lean.

Becauſe preſidents are moſt uſeful, I have here thought good to give you the forms of ſeveral Eyes more at large, by which you may with more eaſe know the truth of their Proportions.

As alſo Ears, which are exactly to be known; and then the forms of ſeveral Noſes and Mouths; all which are taken from eminent Maſters, as *Palma* and others. [*In the following Page.*]

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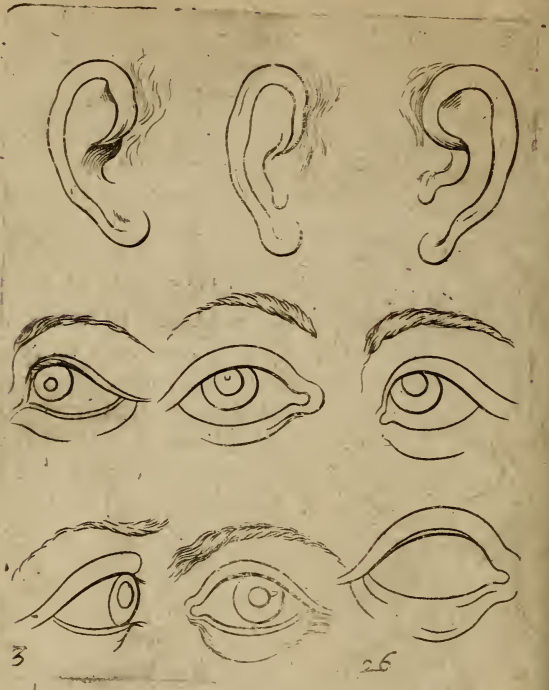
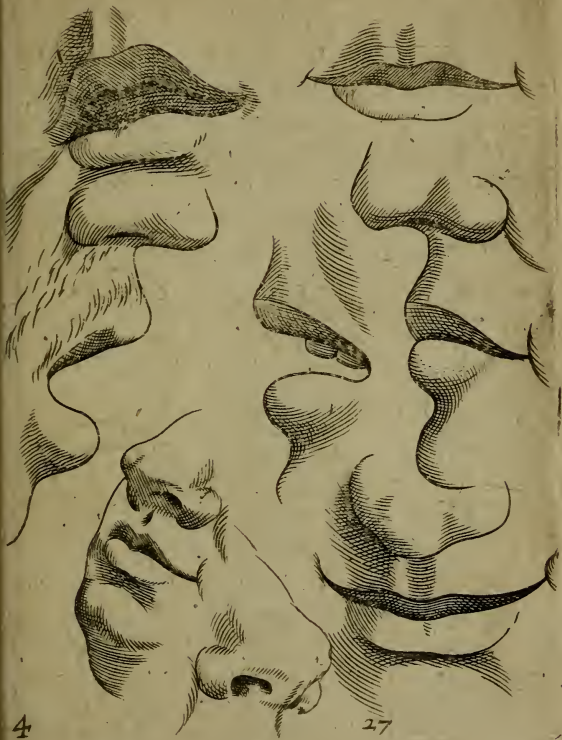


SECT. V. *Of the Nose, Mouth, and Chin.*

THE *Nose* is the most eminent part of the Face; in which observe the hollowness, roundness, and the Nostrils, as they appear in these several Figures borrowed from *Fiolet*.

1. Describe a Semi-circle downwards.
2. Make the Holes of the *Nose*.
3. The addition of the Nostrils.



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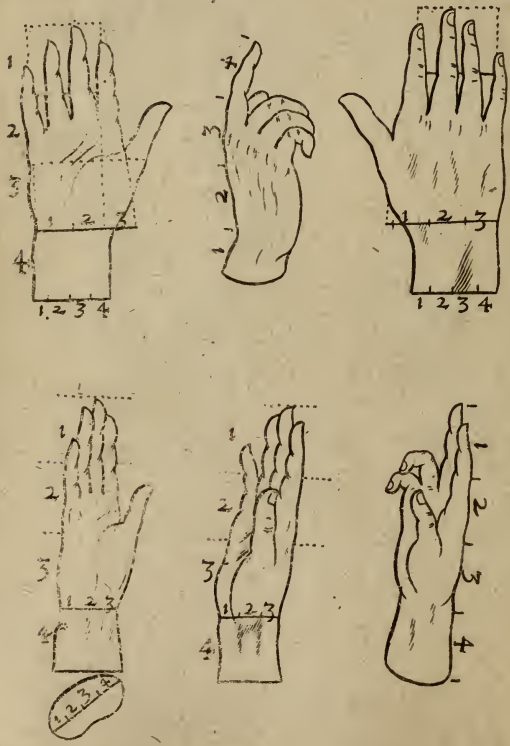
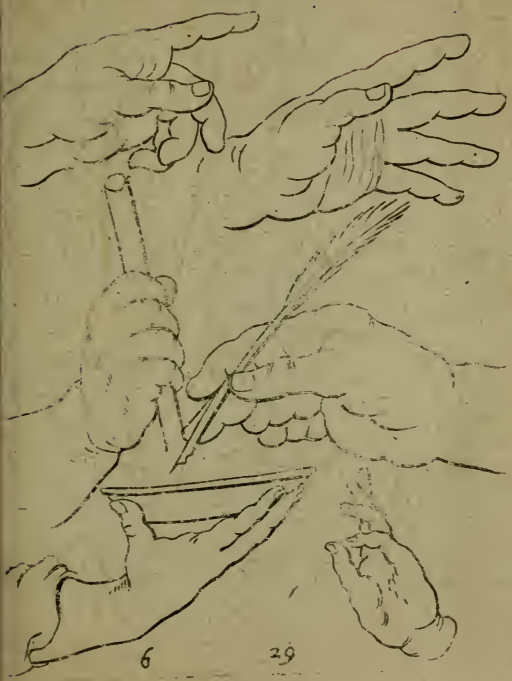
SECT. V. *Of Hands, both Palm, Back, and Sides; as alſo open and cloſed: and likewiſe of Hands and Arms joyned.*

HAving ſufficiently practiſed the Drawing of Mouths and Noſes, let your next exerciſe be in drawing of *Hands* in all poſitions, both by meaſures, and without; as alſo Hands and Arms joyned.





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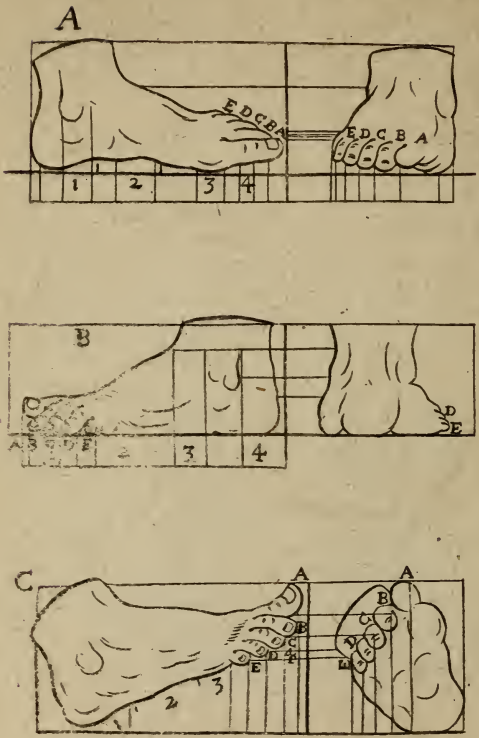
SECT. VI. *Of Feet in several positions, both with and without measures, as also of Feet and Legs joyned together.*

BEing expert in the Drawing of *Hands* and *Arms*, proceed to the Drawing of Feet in all ostures, both with and without measures; which aving attained, exercise your self in Drawing of *egs* and *Feet* joyned together, as before you did f *Hands* and *Arms*; that so you understand the articulars of the whole Body, you come with the ore judgment to that great difficulty of Figures f the whole Body of Man. To help you therein, I ave set before you the easiest and truest Rules that e best Masters of Proportions have published, with Discourse of their true Measures: which will be e more easie, if you seriously weigh the fore-oing Chapter, treating of all the external parts of ans Body, for then you will have occasion to bserve it; but first exercise your self in following ese examples of *Feet*, as also of *Feet* and *Legs* yned together. [*See the* 2 *following Pages.*]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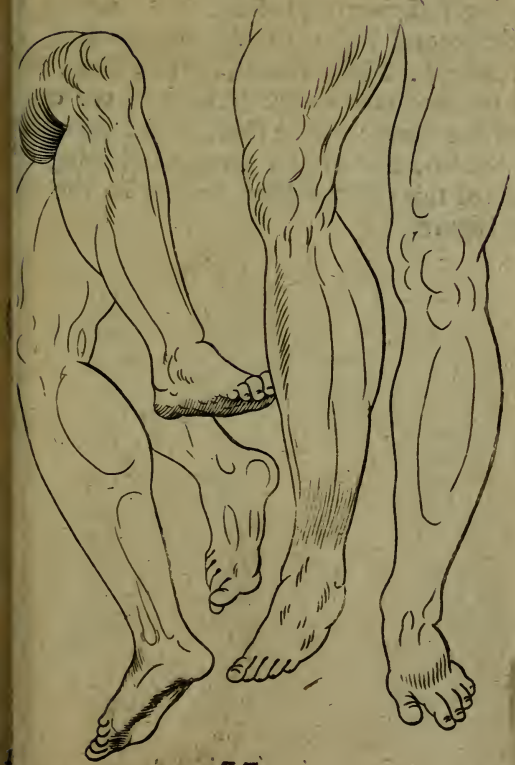

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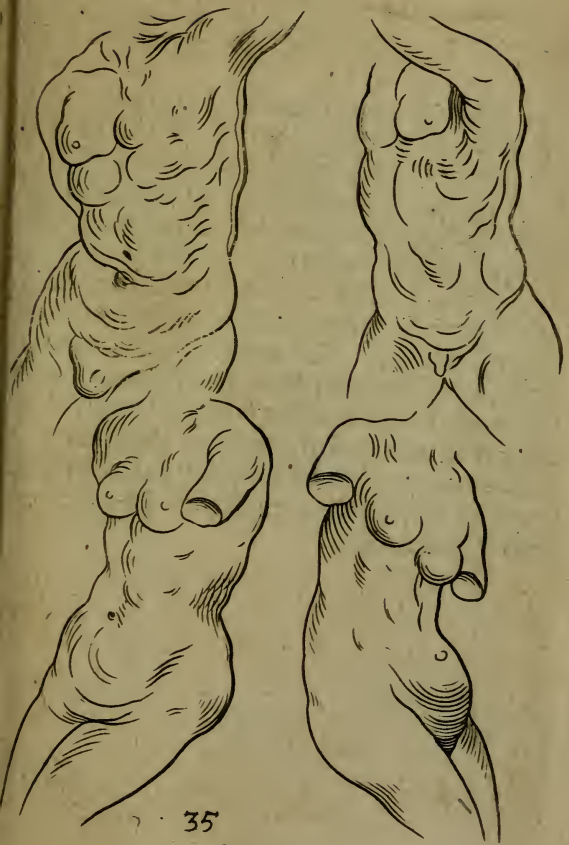
SECT. VII. *Of the Back, Breaſt, ſecret Members, Thighs, Shoulders,* &c.

HAving ſufficiently practiſed the Drawing of the ſeveral Limbs of Man and Woman, as *Head*, *Mouth*, *Noſe*, *Hands*, *Arms*, *Feet*, and *Legs*; proceed next to the drawing of the other parts of the Body: as the *Back*, *Belly*, *Shoulders*, *Breaſt*, *Secrets*, and *Thighs*, therein following the example of this noble Maſter *Palmas*, in the following Figure.



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SECT. VIII. *Of whole Figures from head to foot.*

OF whole Figures I have furnished you with variety of examples; as first, of a Child standing backward and forward, which is necessary to be best practised, because these are the more easie, being more plump & round than the Body of Man, without that observation of the Muscles and other parts, which I desire you in a methodical way to imitate often before you adventure upon the other Figures, which are Man and Woman standing forward, and after that Man and Woman standing backward, as also in other postures: and the same order that was at first proposed about the *Heads Hands*, and *Feet*, *&c.* by touching out every Figure first with Charcoal, is exactly to be observed in these Figures also.

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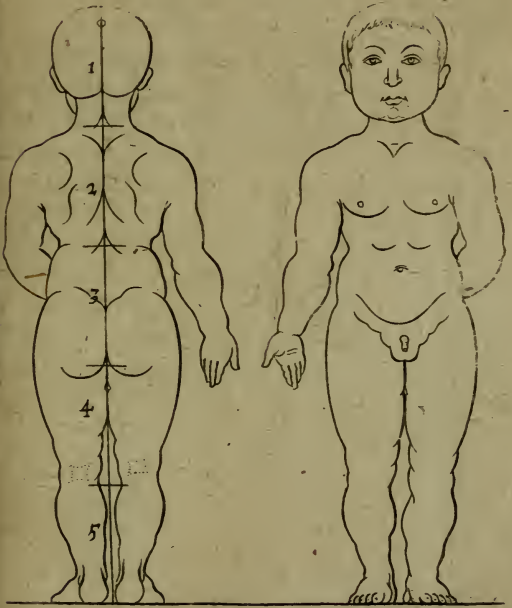
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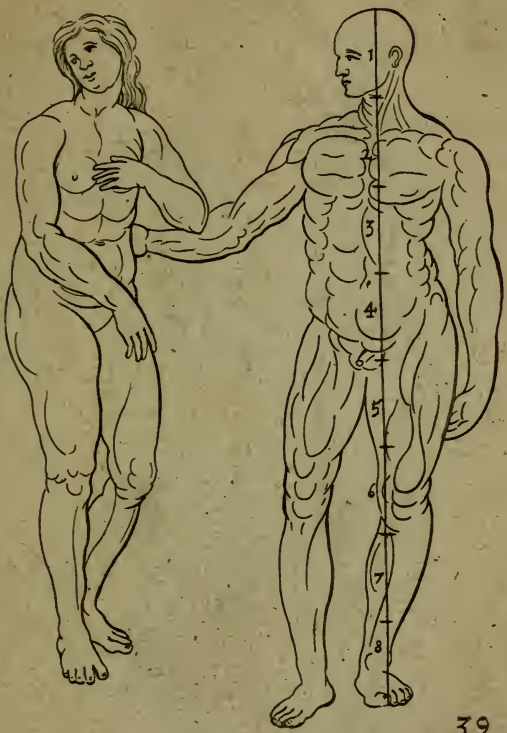

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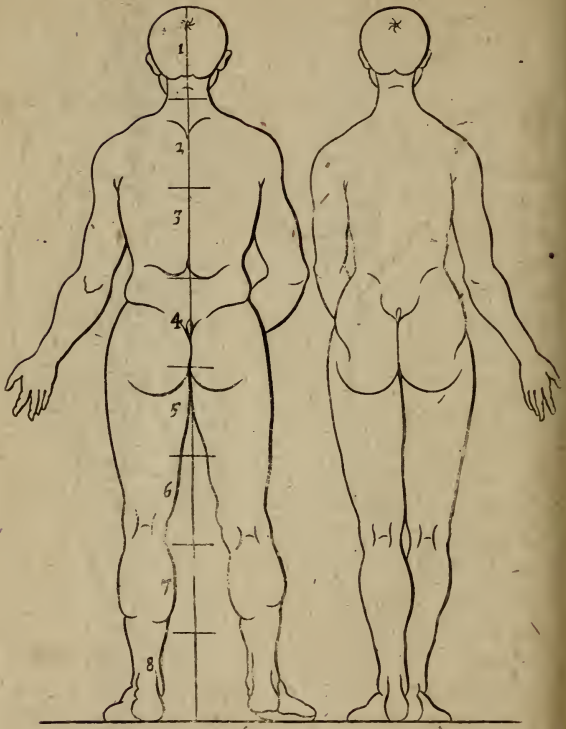

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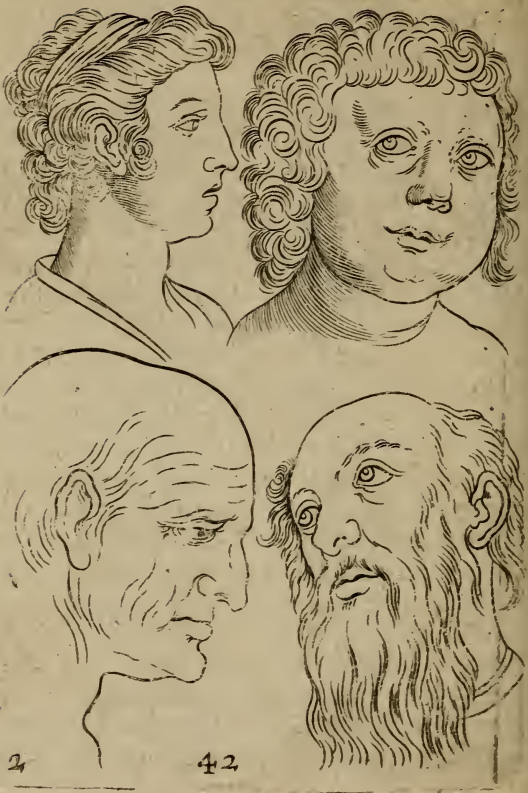
SECT. IX. *Rules of Symmetry or Proportion to be observed in Drawing the whole Body of Man or Woman.*

FOR your further help in Drawing the following Figures, take notice of these necessary Rules: Begin at the *Head*, and so proceed by degrees, as your pattern directs; and be careful that your parallel *Joynts*, *Sinews*, or *Muscles*, be directly opposite; also that the Motion of the Body be answerable one part to another, and that the parts and limbs of the body have a due symmetry; not a great *Arm*, and a small *Leg*; or a small *Hand*, and a great *Finger*, &c. Let not one part be too long for another. Of all which, you must know, that at first you will be apt to commit many errours, but be not disheartned; proceed, and your labour will not be lost, experience is gained by practice; be but diligent, and you will find more ease than you could imagine: at first all things that are attainable seem difficult; we have a good old saying, *Nothing is hard to a willing mind*, and I can speak it by experience. I might spend time to tell you many stories how to proceed to Figures clothed, *&c.* but if you can draw a Naked figure well, for the order of Garments, you will be able to do that with ease.

And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And now having brought you thus far in Practice, and given you a more exact order to proceed with so many several Examples more than larger Volumes have produced; which you having well followed, and attained to some reasonable measure of Proportion, you may now proceed to that which may be more profitable, if you first practice those things that may be easily shadowed with a Pen, and that will fit your hand for Etching with *Aqua fortis*, which shall be perfectly taught in the next Chapter; wherein you have the mixture of the Ground to Etch upon, the order how to prepare your Copper, and how to order your *Aqua fortis*, what Instruments you are to use about the same, and how to take off your design on the Plate, which is an experimental Rule practised by the best Etcher in *England*, namely Mr. *W. Hollar*.

SECT. X. *The Proportion of the Body of Man.*

FOR your further information, and to direct your judgment in drawing of whole Bodies, observe these following Proportions.

A Man standing, from the top of the Head to the bottom of the Feet, is eight times the length of the Head.

The Arm hanging straight down, it reacheth within a span of the Knee.

A Hand must be the length of the Face, the Hand spread abroad must cover the Face, and no more.

Note, that in Drawing a Figure standing, you must

muſt firſt draw that Leg which the Body ſtands firmeſt upon; otherwiſe your Figure will yield one way or other, as it were falling.

A Mans Arms extended is the juſt length of the whole Body.

The like proportion is obſerved for Women, and therefore one example ſerves for both.

The Proportion of a Child, according to our learned Author *Lomantius*, conſiſts of five lengths of the Head; according to the Figure expreſs'd in our Diſcourſe, for an example to the Practioner.

CHAP. VI.

Of Shadowing, and Rules to be obſerved therein.

THE out-lines of any Draught or Picture give the Symmetry or Proportion, which is enough to a good judgment: So the Figures before in this Book have only the out-lines, and thoſe are beſt to practice firſt by: I ſay, the Out-lines ſhew the Proportion to a good judgment; but the Lines and Shadows give the lively likeneſs. In Shadowing therefore of any Picture you muſt obſerve theſe Rules following.

RULE I.

Caſt your Shadows always one way, that is, on which ſide you begin to ſhadow your Figure, either on the right or left ſide, you muſt continue ſo doing through your whole work. As in the figure of a Man, if you begin to ſhadow his left Cheek;

Cheek, you must shadow the left side of his Neck, the left side of his Arms, the left side of his Body, the left side of his Legs, *&c.* Except the light side of the Figure be darkned by the opposition of some other body standing between the light and it. As if three Men were standing together, that Figure which stands in the middle must be darkned by the foremost, except the light come between them.

RULE II.

All Shadows must grow fainter and fainter, as they are farther removed from the opacous body from whence they issue.

RULE III.

In great Winds, where Clouds are driven to and for several ways; as also in Tempests at Sea, where Wave exposeth Wave; here contrary shadows must concur, as striving for superiority: here in such cases you must be sure to supply the greatest first, and from them, according to your judgment supply the lesser; practice and imitation of good Copies will be your best director.

RULE IV.

All Circular bodies must have a Circular shadow, as they have a Circular form, and as the object of light which causeth shadow is Circular.

CHAP.

CHAP. VII.

Of Drapery, *and Rules to be observed therein.*

AS in Naked figures you draw the Out-lines firſt, the like you muſt do in *Drapery*, leaving room within for your greater and leſſer folds; then draw firſt your greater folds, and then break your greater folds into leſſer contained within them: The cloſer the Garment ſits to the body, the ſmaller and narrower muſt the folds be. Shadow your folds according to the directions of the laſt Chapter; the innermoſt harder, and the outer more ſofter. As in *Shadowing*, ſo in *Drapery*, good Copies of Prints inſtruct beſt; yet take theſe general Rules following.

RULE I.

Continue your great folds throughout your Garment, and break off your ſhorter at pleaſure.

RULE II.

The finer your *Drapery* is, the fuller and ſharper muſt your folds be, and the ſhadows the ſtronger, but yet ſweet.

RULE III.

That part of any Garment that ſits cloſe to the body, as the Doublet of a Man, the Breaſts of a Woman, and the like, you muſt not fold at all; but rather with your ſweet ſhadow repreſent the part of the body that lies under the Garment, as a Womans Breaſt, with a ſweet round ſhadow, *&c.*

CHAP. VIII.

Of Landskip, *and Rules to be observed therein.*

Landskip is that which expresseth in Picture whatsoever may be beheld upon the Earth, within the *species* of Sight; which is the termination of a fair Horizon, representing Towns, Villages, Castles, Promontaries, Mountains, Rocks, Vallies, Ruines, Rivers, and whatsoever else the Eye is capable of beholding within the *species* of the Sight. To express which, and to make all things appear in Draught or Picture according to true proportion and distance, there are several Rules to be observed, of which take these following.

RULE I.

In every *Landskip* shew a fair Horizon, the Sky either clear or overcast with Clouds, expressing the rising or setting of the Sun to issue (as it were) from or over some Hill, or Mountain, or Rock; the Moon or Stars are never to be expressed in a fair Landskip, but in a Night-piece I have often seen it, as in a piece of our *Sarinus* being taken by night, and in others. As an Astronomer with his Quadrant taking the height of the Moon, and another with his Cross-staff taking the distance of certain Stars, their man standing at a distance with his Dark-lanthorn, to see their Degrees when they had made their observation; these things, as taking of the Partridge with the Loo-bell, and the like, become Night-pieces very well.

RULE

RULE II.

If you expreſs the Light of the Sun in any Landskip, be ſure that through your whole work you caſt the light of your Trees, Buildings, Rocks, Ruines, and all things elſe expreſſed within the verge thereof thitherwards.

RULE III.

Be ſure in Landskip that you leſſen your bodies proportionably according to their diſtances, ſo that the farther the Landskip goeth from your eye, the fainter you muſt expreſs any thing ſeen at diſtance, till at laſt the Sky and the Earth ſeem to meet, as the Colours in a Rain-bow do.

There are many excellent pieces of Landskip to be procured very eaſily; as alſo of Landskip and Perſpective intermixed, which pieces to me were ever the moſt delightful of any other; and ſuch I would adviſe you to practice by; they, if they be good, being the only helps to teach you proportion of bodies in any poſition, either near or a-far off.

I might here ſpeak further of *Damasking*, *Antique*, *Priſco*, *Groteſco*, *Tracery*, and the like; but theſe are things that when you are expert in good draught, as (by diligent practice and following the Rules and Examples before delivered) I hope (by this time) you are, theſe things will come of themſelves, and indeed, no ſooner heard of or ſeen, but done. And thus I conclude this firſt Book of Drawing with the Pen and Paſtils, and ſhall now proceed to the ſecond Book, which teacheth the Art of *Etching* and *Graving*.

OF ETCHING and GRAVING.

The Second Book. Part the Second.

CHAP. I.

Of Etching with Aqua fortis.

THere are several ways for *Etching*, and several Grounds of divers colours, used by several men. I shall deliver here onely one, and that so familiar, easie, and true, that I believe there is not a better Ground, nor a more accurate way performing the work intended, than that which shall be here taught; it being the only way, so many years practised, and to this day continued by that unparallel'd designer and incomparable Etcher in *Aqua fortis*, Mr. *Hollar*; the manner of performing the whole work is as followeth.

SECT. I. *To make Mr.* Hollar's *Ground, and how to Etch in Copper, and what Instruments ought to be used in the practice thereof.*

TAke three parts of *Virgins Wax*, one part of *Asphaltum*, one part of the best *Mastick*; if

You will, you may take away a third part of the *Asphaltum*, and put instead thereof as much refined *Rosin* that is transparent and clear, for this will be better to see through the Ground, to stop up what you have occasion for. Beat your *Asphaltum* and *Rosin* together to powder, and put your *Wax* into a clean Pipkin that hath never been used before, and set it over a gentle fire, and let it boyl; then pour in the *Asphaltum* and *Rosin* into it, and mingle them all together. Then take a Porenger or such like thing full of clean Water, and pour that boiling stuff when all is melted into the Water, but pour not out the dregs; then when it is cold, work it up into a coal or ball; and when you are to use it, then take a clean rag and double it, that no dregs or knots may come through the rag, and tie it fast with a piece of Thread; so is your Ground prepared.

SECT. II. *How to prepare your Copper.*

YOur Copper must be well planisht, that it may lie level; and before you lay on the Ground, take your Plate, and with a Charcoal well burnt, coal it over with very clean water; then wash it off with clean Water never used before, and set it sloping to run off; when it is dry, then scrape some Chalk fine all over it, and with a very clean fine rag rub it over; but let not your fingers touch upon the Plate, till you have put the Ground on, which you must lay on thus.

SECT. III. *How to lay the Ground upon the Plate.*

PUt into some Fire-pan some small-coal or coal-fire, for charcoal is too hot; then lay down the Copper over that, so as the fire may have air; then take your Ground, it being in a cloth as aforesaid, and rub up and down the Copper, so as it sufficiently may cover the Plate, not too thin nor too thick; then take a Ducks feather of the wing, and smooth it as well as possible you can all one way, and then cross and cross until it lie well to your eye; but take heed that your Copper be not too hot, for if it lie until the Ground smoak, all the moisture of the Ground is burnt away, and that will spoil your piece in Etching, because the Ground will break or fly up; this done, let your Plate be cold, then grind some White lead with Gum-water; and note, that as much Gum as the bigness of a Cherry-stone will serve for a piece of White-lead as big as a Nutmeg; but you must understand, that you must put so much water that the white may be of convenient thickness to spread on the Copper.

Then you must have a large Pencil or small Brush, as the Painters use, of the bigness of a Walnut, or more especially for a large Plate, and with that strike over the Plate cross twice or thrice, till you see it smooth.

Then you must have another Brush larger than the first, but very smooth, made of several Squirils tails, with that you may smooth gently the White, which

which you could not do with the other Brush, and then let it lie till it be dry.

SECT. IV. *How to transfer your design upon the Copper.*

THen take your design orCopy after which you are to work, scrape on the back-side thereof some red Chalk all over, then go over that by scraping some soft small-coal till it mingle with the chalk; then take a Hand-brush or great Pencil that is very stiff, and rub it up and down till it be fine and even, and so lay down the design on your Plate, and with a blunt Needle or Point draw over the outstroke; you must have several Needles, some bigger, and some finer, put them into a pencil-stick of the length of a writing-pen, and on the other end keep one Pencil to wipe away the Ground that your Needle fetches off when you work. To blunt your Needle point you must do thus, blunt it on a Table, or on the back-side of a Copper plate, still holding the point downward, and carry your hand circular that you keep the point round; the finest Needles you must sharpen upon a fine Whet-stone, and still turning it betwixt your fingers as you whet it, as the Turners do their work, to keep it round, then after smooth it upon a Table-book leaf; and as you work you need not scratch hard into the Copper, only so as you may see the Needle go through the Ground to the Copper; and always when you leave your work; wrap your Plate up in

Paper, leſt your Plate get ſcratches, which it will be apt to do, and the Ground will be apt to be corrupted lying open in the Air, and the moiſture drawn out of the Ground, and the ſame inconveniency will accrue by letting your Ground lie too long upon your Plate before you finiſh; three or four months time will eat out the moiſture of the Ground, and in Etching it will ſeem broad and deep, and when you think it eaten enough, you will find it to be eaten little or nothing: In Winter time wrap your Plate in a Blanket as well as Paper, when you leave your work; if the Copper get froſt, it will cauſe the Ground to riſe up from the Copper in the eating with the *Aquafortis*.

SECT. V. *How to wall about your Plate with Wax, to lay on your* Aquafortis, *and to finiſh your work.*

YOur Plate being prepared, your Ground laid on, and your Deſign transferred upon your Plate; when you are going to Etch, then take green Wax and melt it in ſome little Pipkin, and with a Pencil cover round about the edges of the Copper; firſt, with the hot Wax ſtick it round about the Plate as a wall to keep in the *Aquafortis*, that it may ſtick faſt; let the ſame be of Green wax alſo; which draw out into long pieces of the thickneſs of ſtrong paſte-board, and as broad as a knife, then faſten it about the edges with a little ſtick being broad on the end, and ſharp edged, and with it thruſt

thruſt down the Wax to make it ſtick; then if your work be fine, take of *Aquafortis* the third part of an Ounce, and break it with your other water that hath been uſed before twice or thrice, and take at leaſt two parts of the old to one part of the new. In caſe you have no *Aqua fortis* formerly uſed, take good Wine-vinegar to mix with your *Aqua fortis*, but if your work be courſe, you may uſe your three pence the ounce Water only; and for ſuch things as you will have fine and ſweet, you muſt firſt pour out your *Aqua fortis* into ſome earthen diſh, then waſh off the *Aqua fortis* with clean water, and let it be dry, then melt ſome Candle-greaſe with a little Ground, and with a Pencil cover thoſe things you will have to lie faint; then pour on your *Aquafortis* again as oft as you ſee need; then melt your Ground the ſame way you laid it on, and with a linnen rag wipe clean your plate, and ſo is your work finiſhed.

CHAP. II.

Of GRAVING

SECT. I. *Of neceſſary Inſtruments belonging to Graving.*

HE that will undertake the Art of Graving, muſt know how to Draw, and hatch with a Pen; which, I doubt not, but he that hath obſerved the former Rules can do.

1. *Of*

1. *Of your Oyl-ſtone.*

The firſt thing you are to do, is to provide a good Oyl-ſtone, which you may have of thoſe that ſell ſeveral Tools for the *Goldſmiths*; which, let be very ſmooth, not too hard nor too ſoft, and be ſure it be without pin-holes. Now to fit your ſelf aright, you are to reſolve what kind of Graving you will follow; if you follow Picture or Letter-work, that is a work more curious than the *Goldſmiths:* Arms and Letters are upon Silver or Pewter, and accordingly your Gravers muſt be ſhap'd.

2. *Of Gravers.*

Goldſmiths Gravers are crooked, that they may more readily come at hollow work; but for Copper-pictures or Letters, the beſt Gravers are the ſtraight, which chuſe thus; Take a File and touch the edge of the Graver therewith, if the File cut it, it is too ſoft, and will never do you good; but if the File will not touch it by reaſon of the hardneſs, it will ſerve your occaſion, although ſuch a Graver be apt at firſt to break ſhort off, after a little uſe by whetting it will come to a good temper, and condition, as by experience I have found; though ſome ignorant of what they have writ, would puzzle you about altering the temper.

SECT.

SECT. II. *The several ways of holding the Graver.*

LET the end of the haft of the Graver rest against the ball of the thumb; and let the fore-finger guide the Graver, which is done by resting steadily upon the point of your Graver.

You must also provide a Bag of Sand to lay your Plate upon, on which you may turn your Plate at ease every way: And note, that with your left hand you must turn your Plate as the stroaks you grave do turn, which is not easily attained without diligent care.

Your Copper plates ready polished do often come from *Holland*, or else you may have them prepared by several in *England*; you may be directed how to have these Plates by most *Printers* of Plates in *London*, and therefore I forbear to trouble you or my self about directing you how to prepare Plates for your use.

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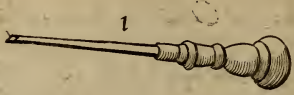
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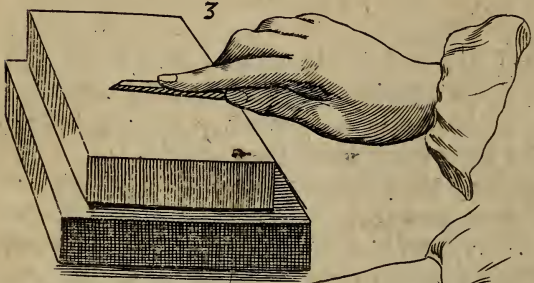
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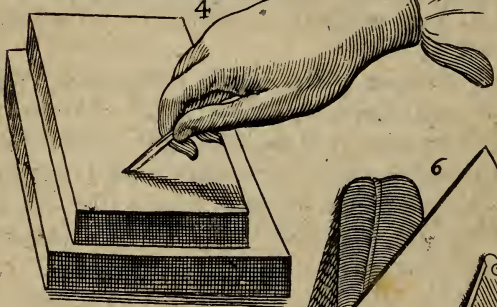
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SECT. III. *The forms of Graving-tools, as alſo the manner of whetting your Graver.*

THe upper part of this figure will ſhew two ſorts of Graving-tools, the one formed ſquare, the other lozeng: The ſquare Graver makes a broad and ſhallow ſtroke, or hatch; and the lozeng makes a deep and narrower ſtroke. The uſe of the ſquare Graver is to make the largeſt ſtrokes, and the uſe of the other is to make the ſtrokes more delicate and lively. But I prefer a Graver made of an indifferent ſize betwixt both theſe two, which will make your ſtrokes, or hatches, ſhow with more life and vigour, and yet with ſufficient force, according as you ſhall manage it in your working: The forms of which will appear in the 1. and 2. figures.

The 3. figure ſhews you how to whet the two ſides of your Graver, which is to be done in this manner following; you muſt have a very good Oyl-ſtone ſmooth and flat, and having poured a little Sallad-oyl thereupon, take the Graver, and laying one ſide of it (that which you intend ſhall cut the Copper) flat upon the ſtone, whet that ſide very flat and even, and to that purpoſe have an eſpecial care to carry your hand ſtedfaſt, and with an equal ſtrength, placing your forefinger very firm upon the oppoſite ſide of your Graver, to the end that you may guide it with the more exactneſs: Then turn the very next ſide of your Graver. and whet that in the like manner, as you did the other; ſo

that

that there may be a very ſharp edge for the ſpace of an inch or better; then turning uppermoſt that edge which you have ſo whetted, and ſetting the end of your Graver obliquely upon the ſtone, carry your hand exactly even, to the end that it may be whetted very flat and ſloping, in the form of a Lozenge, making to the edge a ſharp point, as the figure 4. ſhews you.

It is very neceſſary that you take great care in the exact whetting of your Graver; for it is impoſſible that you ſhould ever work with that neatneſs and curioſity as you deſire, if your Graver be not very good, and rightly whetted.

I cannot demonſtrate it ſo plain and fully by figures, and diſcourſe, as I would: if you have acquaintance with an Artiſt in this way, you may eaſily underſtand in a ſhort time.

SECT. IV. *The manner how to hold and handle your Graver.*

THE uppermoſt part of this figure deſcribes to you the form of two Gravers, with their handles, fitted for the whetting. They that uſe this Art, do before they make uſe of them, commonly cut away that part of the knob or bowl that is at the end of their handles, which is upon the ſame line with the edge of their Graver, to the end it may not hinder them in their graving, as the figure 2. ſhews you.

For if you work upon a large plate you will find that

that part of your handle (if it be not cut away) will ſo reſt upon the Copper, that it will hinder the ſmooth and even carriage of your hand in making your ſtrokes or hatches; alſo it will cauſe your Graver to run into the Copper in ſuch ſort, that you ſhall not be able to manage it at your pleaſure.

The 5. figure deſcribes to you the way of holding your Graver; which is thus, place the knob or ball of the handle of your Graver in the hollow of your hand, and having extended your fore-finger towards the point of your Graver, laying it oppoſite to the edge that ſhould cut the Copper, place your other fingers on the ſide of your handle, and your thumb on the other ſide of the Graver, in ſuch ſort that you may guide your Graver flat and parallel with the plate; as you may ſee in the figure.

And be very careful that your fingers do not interpoſe between the plate and the Graver, for that will hinder you in carrying your Graver level with the plate, ſo that you cannot make your ſtrokes with that freedom and neatneſs, which otherwiſe you may. This I think fit to give you notice of, becauſe the skill of holding your Graver is that which you muſt firſt perfectly learn.

SECT. V. *The manner of holding your hand in Graving.*

HAving deſcribed the way of holding your Graver, the next thing is to ſhew you how to guide your Graver upon the plate in making of your

your ſtrokes, which are ſtraight or crooked; that you may work with the more eaſe and convenience, you muſt have a ſtrong round leather Cuſhion fill'd with ſand or fine duſt; let it be made about half a foot broad in the diameter, and three or four inches deep; lay this upon a Table which ſtandeth faſt and firm: Then lay your plate upon the Cuſhion, as is deſcribed in the *6.* figure.

When you are to make any ſtraight ſtrokes, hold your Graver as is directed in the former Section; and if you will have your ſtrokes deeper or broader in one place than in another, in that place where you would have them deepeſt, you muſt preſs your hand hardeſt; but eſpecially in making of a ſtraight ſtroke, be careful to hold your plate firm and ſtedfaſt upon the cuſhion.

And if you make any crooked or winding ſtrokes, then hold your hand and Graver ſtedfaſt; and as you work, turn your plate againſt your Graver; for otherwiſe it is impoſſible for you to make any crooked or winding ſtroke with that neatneſs and command, which by this means you may, if you do not move your plate, and keep your arm and elbow fixed or reſted upon the Table.

If as you are working, your Graver happen to break often on the point, it is a ſign it is tempered too hard; to help this, take a red hot charcoal, and lay the end of your Graver upon it, and when you perceive your Graver to wax yellowiſh, dip it in the Water: If your Graver become blunt without breaking, it is a ſign it is nothing worth.

After you have graved part of your work, it will be

be neceſſary to ſcrape it with the ſharp edge of a Burniſher, carrying it along even with the plate, to take off the roughneſs of the ſtrokes; but in ſo doing take heed of making any ſcratches in your work.

To the end you may better ſee that which is graven, they commonly roll up cloſe a piece of a black Felt or Caſtor, liquored over with a littl Oyl, and therewith rub the places graven: And if you perceive any ſcratches in your plate, rub them out with your Burniſher: And if you have graved any of your ſtrokes too deep, you make them appear fainter with rubbing them with your Burniſher.

SECT. VI. *How to take off any Picture, or Map-letters, &c. upon your Copper.*

TAke your Plate and heat it over the Fire, and having a piece of yellow Bees Wax, put into, and tyed up in a fine Holland rag, try if your Plate be hot enough to melt your Wax; if it be, lightly wipe over your plate with that Wax, until you ſee it be covered over with Wax, but let it be but thin; if it be not even, after it is cold you may heat it again, and with a feather lay it even, which at firſt you will find a little difficult.

Now if what you are to imitate be an exact copy, you muſt note it muſt ſtand the contrary way in the plate, and therefore your beſt way will be to track it over in every limb with a good Black-lead Pencil, eſpecially if it be an old picture, which having done, take an old Ivory haft of a Knife, and

placing your picture exactly on your copper, the face downward, take your haft and lightly rub over your print, and you shall perceive the perfect proportion remain upon the wax that is upon the plate; then take a long Graver, or another piece of steel grownd sharp, and with the point thereof go over every particular limb in the out-stroke, and there will be no difficulty to mark out all the shadows as you go to engrave your work, having the proportion before you.

And it will be more ready, if also you note your shadows how far they be dark, and how far light with your black-lead, before you rub it off; but a learner may be puzzled at first with too many observations.

At first you will find some difficulty for carrying your hand, and for the depth of your stroke you are to engrave; but take this experiment in your first beginning; learn to carry your hand with such a slight, that you may end your stroke with as light a stroke as you began it; and though you may have occasion to have one part deeper or blacker than another, do that by degrees; and that you may the more distinctly do it, observe your strokes, that they be not too close nor too wide: And for your more exact observation, practice by those prints that are more loosly shadowed at first, lest by imitating those dark and more shadowed, you be at a loss where to begin or where to end; which to know, is only got by practice: Thus for Pictures.

Now for Letters, if copies, every word and letter must be either writ with ungumm'd Ink, or

else

elſe gone over with Black-lead, and rubb'd on the plate when it is waxed, as before; but if a Map or other Mathematical Inſtrument, every circle, ſquare, or perpendicular muſt be drawn over as before, ſquare, or elſe you cannot exactly imitate the ſame; but if you be to cut any Face, Arms, Inſtruments, or Map not to be printed, then if you black over the back-ſide, as you are directed for your deſign in Etching, that will ſerve your turn; onely for Etching you uſe a mixt ground, and for to Engrave you onely uſe wax.

And thus, in a plain ſtyle, I have given you an account of the whole myſtery of *Engraving*.

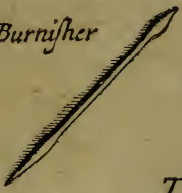
The way of Laying a Mezza-tinto Grownd, with the faſhion of the Engine, and manner of ſcraping your deſign.

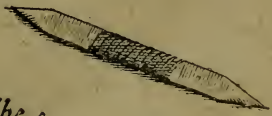
YOU muſt go to ſome Ingenious File Cutter, and get a Roll made of the beſt ſteel, about one Inch Diameter, and one Third thick and hatcht round the edge, and croſt again at right Angles: the faſhion of the Engine and the ſeveral Tools uſed in ſcraping the Grownd is hereunto annexed, then take your Copper Plate and divide it into ſquare Inches, and draw the lines Parellels and Perpendiculars with a Black-lead Pencil, then croſs it Diagonal ways; then take your Engine in one hand, the other bearing indifferent hard upon the frame, run it up two or three of the ſquares from the Left till you come to the Right hand of your Plate, ſo gradually till you have gone it over one way, then croſs it the other way; ſo

likewiſe the Diagonal ways, till you have gone it over the Four ſeveral ways; then you muſt begin again, and go it over the ſame ways again, till you have gone it over at leaſt Twenty times, till you leave no place untoucht with your Engine: Your grownd being thus laid, take your deſign and Rub White-lead upon the back ſide, and fix it on the Plate, and with your Drawing-point, draw over all the out-ſtroakes and bounds of the Principal ſhadows, and it will come off upon the Plate; then with your ſeveral Scrapers, lightly ſcraping upon the extreme Lights, and ſo gradually all the other ſhadows, until you have brought all the drawing of your deſign upon the Plate; then take a Proof off, by which means you will be able to go on in the finiſhing of it, although you muſt proof it Three or Four times before you can thoroughly finiſh it.

How to take off Mezzo-tinto Prints, for Painting on Glaſs.

YOU muſt get your Beſt Looking-glaſs, and the beſt Venice Turpentine; then take your Print and lay it in Water for about Two or Three hours; then take it out and lay it flat before a clean Cloth, and warm as much of the Turpentine as you think you ſhall uſe, and warm the Glaſs a little likewiſe; then with a large Bruſh, lay your Turpentine even all over the Glaſs, your Print lying the Right ſide uppermoſt, lay your Glaſs from one ſide by degrees





The

Severall

Scrapers

grees upon the Glaſs; by which means you keep the Wind from raiſing Bliſters in your Print; then Rub with your Finger, gently dipping your Finger in Water now and then, and you will find the Paper to Rub off; but have a Care of Rubbing holes quite through the Print, for you muſt leave only a thin film of Paper, and when it's dry, varniſh it over with White Varniſh, which you may have at the Colour-Shops; then it is fit to work upon.

OF LIMNING IN WATER-COLOURS.

The Third Book. Part the Third.

THE practice of *Limning* is a quality commendable in any person, and a practice meet for the Noblest personage of what quality soever; I shall say no more in the praise of it, it may speak for it self, but come immediately to shew you the manner how to perform it; therein following the Rules now practised by the most eminent Masters in that faculty: And first, shall begin in this as in the other parts of this Book, what things are to be in a readiness prepared for the practice of it.

CHAP. I.

Of necessaries belonging to Limning.

TO the Limning in Water-colours there belong several things, as *Gumms* of several sorts, and *Waters* made of them, a *Grinding-stone* and *Muller*, several *Colours*, *Liquid Gold* and *Silver*, several *Sizes* to lay Gold, *Parchment* of the finest, as of *Abortive Skins*; *Pencils* of divers sorts; of the making and preparing all these in their order, and then to their use.

SECT.

SECT. I. *Of Gums and Gum-waters used in Limning.*

THE principal Gum is *Gum-Arabick*; get the best that may be, which you shall know by the *whiteness* and *clearness*; if it be yellowish, of an Amber colour, it is naught.

To make Gum-water hereof, do thus; Take a clean earthen Vessel, Pan, Dish, or the like, put therein the fairest Spring-water you can procure, then take a quantity of Gum-*Arabick*, and tie it in a fine clean Linnen cloth, as in a bag, and hang this in the middle of the water, and there let it rest, till the Gum be dissolved; if you find your water be not stiff enough of the Gum, put more Gum into your cloth, and let that dissolve as the other did; if it be too stiff, add more Water: Of this Gum-water it is absolutely necessary you have always by you two sorts, one strong, the other weak; and of these Two, you may make a Third at pleasure; preserve these in clean Glasses for your use.

Of GUM-LAKE.

Gum-Lake is a compounded Gum made of many ingredients, as of *whites of Eggs* beaten and strained, of *Honey*, *Gum of Ivy*, *strong Wort*; these ingredients mingled together will at last run like an Oyl, which at last will congeal and be hard. Trouble not your self to make it, but buy it ready made; chuse it as you do the Gum-*Arabick*, by the clearness, and then you need not fear it.

To make Water thereof, use it in all respects as you did your Gumb-*Arabick*, by tying it in a cloth and dissolving it in fair water: of this Water also have of two sorts, a weaker and a stronger.

Of GUM-ARMONIACK.

Of this Gum you may make a Water, that whatsoever you write therewith you may lay in *Gold*.

The manner of making the Water is thus; take your Gum and grind it with the juice of Garlick as fine as may be, thereunto add a few drops of weak water of Gum-*Arabick*, making it of such a thickness as you may conveniently write it with a Pen.

With this liquor write what you will, and let it dry, but not too long, for if you do, the Gold will not stick; and if you lay on your Gold too soon, it will drown it. When you would lay your Gold upon it being dry, do thus, get a Gold-cushion, which you may thus make; take a piece of Calves-leather rough, and get a board about six inches long, and five inches broad, upon this board lay some woollen cloth four or five times double, and over all your Leather with the rough side outwards, nailing the edges of the Leather to the sides of the Board; so is your Cushion made.

Upon this Cushion lay your Gold-leaf, and with a Knife that hath a very sharp edge, cut your Gold upon your Cushion into pieces, so that it may quite cover what you have written, then breathe upon your writing, and with a piece of white Cotton-wool (breathing upon that also) lay it upon your Gold, and it will take it off from your Cushion, which press down hard upon your Writing, and it will

will there ſtick; then with other Cotton-wool dry, wipe away the looſe Gold, and your Writing only will remain, which when it is through dry you may burniſh with a Tooth, and it will ſhew fair.

Of LIQUID GOLD *or* SILVER.

YOU may with *Liquid Gold* or *Silver* Draw or Write any thing with the Pen or Pencil, as with any other liquid colour; I could ſhew you how to make it; but to make a ſmall quantity it is not worth the while, neither will it quit the coſt; therefore I would adviſe you to buy it ready-prepared, which you may do where you buy your Colours, or of ſome *Gold-beaters*, who make it of their cuttings of the ragged edges of their Gold.

When you uſe it, do only thus, put into your Shell a drop or two of fair water, and with a clean Pencil temper up ſo much Gold as will ſerve your occaſion at that time, with which Write or Draw what you will; then about two or three hours after, the longer the better, burniſh it by rubbing hard upon it with a Dogs-tooth, and it will be pure Gold; this is the beſt and eaſieſt way of laying Gold that I know of.

SECT. II. *Of your Grinding-ſtone and Muller.*

GEt a Stone of *Porphiry* or *Serpentine*, or rather a *Pebble*, (if you light of one large enough) is beſt of any other. But in ſhort, get as good an one as you can, which your *Marblers* in *London* may help you to; keep this and your Muller always very clean and free from duſt.

SECT.

SECT. III. *Of Colours.*

THere are simply six, *viz. White, Black, Red, Green, Yellow*, and *Blew*; to which we may add *Browns*, but they are compounded.

Of either of these there are several sorts, the names whereof, and the manner of ordering of them shall be shewed in the ensuing Chapter.

CHAP. II.

Of Colours used in Limning: their names, and how to order them.

SECT. I. *Of the Names of Colours, and how every Colour is to be prepared; whether Grownd, Wash'd, or Steep'd.*

BLACKS.	WHITES.	REDS.
Cherry-stones burnt.	*Ceruse.*	*Red-Lead.*
Ivory burnt.	*VVhite-Lead.*	*Lake.*
Lamp-black.		

GREENS.	BLEWS.	YELLOWS.
Bise.	*Indico.*	English *Oker.*
Pink.	*Ultramarine.*	*Masticote.*
Sapgreen.	*Bise.*	BROWNS.
Cedar-greeu.	*Smalt.*	*Umber.*
		Spanish *Brown.*
		Colen's *Earth.*

These

Theſe are the principal Colours uſed in Limning; I have omitted many others, but they are ſuch that are not fitting for this Work, which I ſhall ſpeak of when I come to teach how to *waſh* Maps and printed Pictures, for which uſe thoſe Colours I have omitted are only uſeful.

Of the Colours here mentioned, uſeful in Limning, they are to be uſed three ſeveral ways, *viz.* either *Waſhed*, *Grownd*, or *Steeped*.

The Colours to be only *Waſhed* are theſe:

Biſe.	*Cedar.*	*Red-Lead.*
Smalt.	*Ultramarine.*	*Maſticote.*

To be *Steeped*, only *Sap-green*.

The Colours to be *Waſhed* and *Grownd*, are theſe:

eruſe.	*Pink.*	Spaniſh *Brown.*	
White-Lead.	*Indico.*	*Ivory*,	
ake.	*Umber.*	and	*black.*
ngliſh *Oker.*	Colens *Earth.*	*Cherry-ſtone.*	

ECT. II. *Of thoſe Colours that are to be Grownd, and how to Grind them.*

Have in the laſt Section told you what Colours are to be Grownd, which Waſhed, and which be Steeped; it reſteth now, to ſhew you how to rind thoſe Colours that are to be grownd; I ſhall ot run over every Colour particularly; but ſhew ou how to grind one Colour, which take as an ample for all the reſt. For

For our example in grinding of Colours, let us take the original of Colours, *viz.* Ceruſe, or White-lead, there is little difference between them, only one is refined, the other not.

To grind it do thus; Take a quantity thereof, or of any other Colour to be grownd, being cleanſed from all manner of dirt or filth, which you muſt firſt ſcrape off; then lay the Colour upon your Stone, and with your Muller bruiſe it a little, then put thereto fair Spring-water, and between your Muller and Stone grind the Colour well together with the water till the Colour be very fine, which when you find to be enough, have in a readineſs a great Chalk ſtone, in which make certain troughs or furrows, into which pour your Colour thus grownd, and there let it reſt till it be thorough dry, then take it out and reſerve it in Papers, and thoſe Papers in boxes, for your uſe. This order you are to obſerve in all Colours that are to be Grownd.

SECT. III. *Of thoſe Colours that are to be VVaſhed, and how to VVaſh them.*

AS in the Grinding of Colours I gave you an inſtance but in one for all the reſt, the like I ſhall do for thoſe Colours which are to be *VVaſhed*; I will make my inſtance in *Red-Lead*, which you are to Waſh in this manner.

Put a quantity thereof into a clean earthen diſh, and pour thereto fair Water, ſtirring the colour and Water together with your hand or otherwiſe; then let

let it ſtand a while, and you ſhall ſee a filthy greaſie ſcum ariſe and lie above the water, with other filth; pour this water quite away, and put other clean water to the Colour, and ſtir it about again, pouring away the water if (foul) the ſecond or third time; then add more water, and ſtir the Colour about again till the water be thick and troubled; but yet free from filth, then gently pour this troubled water into a ſecond earthen diſh, leaving in the firſt diſh all the dregs.

Into the ſecond baſon put more fair water; and with your hand ſtir about the Colour as before; do thus two or three times, and take (if your colour be very foul) a third earthen diſh, and add more water, and keep ſtirring, till at laſt the water become clear, and the colour remain fine at the bottom of the diſh; pour away your water gently, and you will find ſome colour remaining and ſticking to the edges of the diſh, which when it is dry, you may (with a feather) ſtrike away like flower, which reſerve as the choiceſt and pureſt of all; if in a pound of this Red-lead you have an ounce of good indeed, prize it, for it is troublome to procure. The other, which is not altogether ſo pure, may be ſerviceable for ſome uſes, though not for all. What hath been ſaid of this colour is to be underſtood of all other that are to be waſhed; therefore for Waſhing of Colours let this ſuffice.

SECT. IV. *Of Colours to be ſteeped.*

I Said (among the Colours before mentioned) there was only *Sap green* to be Steeped, though in

in Colours to wash Maps and Prints, there are many, but of these, when we come to shew how to Wash Maps, *&c.* To Steep your *Sap-green* do thus, take a quantity thereof and put it into a Shell, and fill the shell with fair water, to which add some fine powder of Allum to raise the colour; let it thus steep twenty four hours, and you will have a very good *Green.*

SECT. V. *Of those Colours that are Washed and Grownd, how to temper them in your shells when you are to use them.*

YOU having all Colours both *Grownd* and *Washed* by you in a readiness, when you begin any piece you must temper them as followeth, for which take one example for all.

Take any Colour, a small quantity thereof, and put it into a clean shell, then add thereunto a drop or two of Gum-water, and with your finger (being clean) work it about the sides of the shell, and there let it stick till it be dry; when the colour is dry in the shell; draw your finger over it; if any Colour come off, you must add stronger Gum-water to it. But, if when your Colour is dry in the shell, it glitter or shine, it is a sign there is too much Gum in it; therefore remedy that by tempering your Colour up again with fair Water only, without any Gum.

There are some Colours, as *Lake*, *Umber*, and other hard Colours, which when they are dry in the shell will crack, and look like parched ground in a dry Summer; to such colours as these, when you temper them for use, add to them a small quantity

city of white Sugar-candy in fine powder, which temper with your Colour and fair water with your finger in the shell till the Candy be dissolved; and this will keep them from peeling when you have laid them on your Work.

Note here, that these Colours following, *viz. Umber*, Spanish-*Brown*, Colen-*Earth*, *Cherry-stone* and *Ivory-black* are to be burnt before they be Wash'd or Grownd.

To burn any of them do thus, put the Colour into a Crucible, such as *Goldsmiths* melt their silver in; if you will, cover the mouth thereof with clay, and set it in a hot fire, there let it rest till it be red hot; when the Colour is cold you may Grind or Wash it according to former Directions.

SECT. VI. *Of Pencils, and how to chuse them.*

YOu are in the next place to furnish your self with *Pencils* of all sorts; which how to chuse do thus, take a Pencil and put the hairy end between your lips, wetting it a little by drawing it through your lips, being moist, two or three times; so that the Pencil being large will come to a point as small as a hair, which if it do, it is good; but if it spread, or any extravagant hairs stick out of the sides, they are naught; you may try them by wetting in your mouth, and attempt to draw a line on the back of your hand.

SECT. VII. *Of Compounded Colours.*

OF the six simple Colours before named, together with the *Browns*, many others may be

be compounded for *Faces of all Complexions*, *Garments*, *Landskips*, *Building*; for *Birds*, *Fishes*, *Beasts*, and what not: I will shew how to compound some, and by those you may by practice find out and invent infinite more. I shall instance in these following, As,

A Violet.	*Light-green.*
A Lead-colour.	*Purple.*
Flame-colour.	*A Bay-colour*
Scarlet.	*A Murry.*

To make a *Violet-colour.*

Indico, *White*, and *Lake*, make a good Violet-colour; you may make it lighter or darker at pleasure, as you may all other compounded Colours.

Lead-colour.

Indico and *VVhite* make a Lead-colour.

Colour for *Flaming-fire.*

Red-lead, and *Masticote*, heightned with *VVhite.*

Scarlet-colour.

Red-lead, *Lake* and *Vermilion*, very little or no *Vermilion*, for it is not good in Limning.

Light-green.

Pink and *Smalt*, with *VVhite* to make it lighter, if you require it.

A Purple colour.

Indico, Spanish *brown*, and *VVhite.*

A Bay-colour.

Spanish-*brown* and *VVhite.*

A Murrey-colour.

Lake and *VVhite* make a Murrey-colour.

Of these infinite others may be made, but I leave them to your own ingenuity to find out, which with little practice you will soon do. The next thing you shall be informed in, is how to prepare your Table for Limning, and fit all things for you work, which shall be declared in the next Chapter.

CHAP. III.

How to prepare a Table for a Picture in small for Limning, to make choice of your Light, the manner of Sitting in respect of Position and Distance, and what necessary Instruments are to lie by you when you are at work.

WE now draw pretty near to our intended purpose, *viz.* Minuture or Limning to the life in Water-Colours: But,

SECT. I. *How to prepare a Table for a Picture in small.*

GET pure fine Paste-board, such as the ordinary playing-Cards are made of, you may have of what size and thickness you please, and very finely slick'd and glazed, at the *Card-makers:* Take a piece of this Paste-board of the size you intend your Picture; then take a piece of Parchment of the finest and whitest you can get, which are the skins of abortives or coltlings, cut a piece of this skin of equal bigness with your Paste-board, and with thin white Starch new made, paste the Parchment to the Paste-board, with the out-side of the skin outermost; lay on your Starch very thin and even; then your Grinding-stone being made very clean, lay the Card thereupon with the

the Parchment-ſide downwards, and as hard as you can, rub the other ſide of the Paſte-board with a Boars tooth ſet in a ſtick for that purpoſe; when it is thorough drie, it is fit to work upon.

SECT. II. *Of your Light.*

CONcerning your *Light*, let it be fair and large, free from being ſhadowed with trees or houſes, but a clear sky-light; let it be a direct light from above, and not a traverſe-light; let it be a Northerly and not a Southerly light, for the Sun ſhining either upon you, your work, or the party ſitting, will be very prejudicial; as your room muſt be light, ſo let it be alſo cloſe and clean. And obſerve, that you begin and end your work by the ſame light.

SECT. III. *Of the manner of Sitting.*

LEt your Desk on which you work be ſo ſituate, that when you ſit before it, your left arm may be towards your light, and your right arm from it, that the light may ſtrike in ſideling upon your Work. Thus for your own ſitting.

Now for the manner of the party's ſitting that is to be Drawn, it may be in what poſture he or ſhe ſhall deſign; but let the poſture be what it will, let it not be above two yards off you at the moſt, and level with you; but if the party be tall, then above.

Mark well when the party that ſits moveth, though never ſo little, for the leaſt motion of the body or face, if not recalled, may in ſhort time cauſe you to run into many errors.

The Face of a party being finiſhed, let him ſtand and not ſit to have his poſture drawn, and that at a farther diſtance than two yards, *viz.* four or five yards.

SECT. IV. *Of ſuch neceſſaries as are to lie by you while you are at work.*

1. YOu muſt have two ſmall Sawcers or other *China*-diſhes, in either of which there muſt be pure clean Water; the one of them is to waſh your Pencils in, being foul; the other to temper your Colours with when there is occaſion.

2. A large, but clean, fine and dry Pencil, to cleanſe your work from any kind of duſt that may by accident fall upon it: ſuch Pencils they call *Fitch-Pencils*.

3. A ſharp Pen-knife to take off hairs that may come from your Pencil, either among your Colours or upon your Work, or to take out ſpots that may come to fall upon your Card.

4. A Paper, having a hole cut therein, to lay upon your Card to cover it from duſt, and to reſt your hand upon, to keep the ſoil and ſweat of your hand from ſullying your Parchment, and alſo to try your Pencils on before you apply them to your Work.

Work. Let your Sawcers of Water, your Pen-knife and Pencils lie all on your right hand.

5. Have a pretty quantity of Carnation (as some call it) or Flesh-colour, somewhat lighter than the Complexion of the party you are to draw, tempered up in a shell by it self with a weak Gum-water. If it be a Fair complexion, White-lead and Red-lead mixed. If a Swarthie or Brown complexion, to your White and Red-lead add a quantity of Masticote, or *English*-Oker, or both if occasion be. But whatever the Complexion be, be sure you temper your Flesh-colour lighter than the party; for by often working upon it you may bring it to its true colour, it being first too light; but if it be first too sad, there then is no remedy.

6. Having prepared your Flesh-colour, take a large Shell of *Mother of Pearl*, or a *Horse-Muscel-Shell*, which any *Fisherman* will help you to, and therein (as *Painters* in Oyl dispose their Colours upon their Pallat for their working of a Face, so must you) place your several Shadows in this Shell in little places one distinct from another.

Note, that in all your Shadows you must use some White; wherefore 1. lay a good quantity of White by it self, besides what the Shadows are first tempered with. 2. For *Red* for the Cheeks and Lips, temper Lake and Red-lead together, some use Vermilion, but I like it not. 3. For your *Blew* Shadows, as under the Eyes, and in Veins, *&c.* Indico and White, or Ultamarine and White. 4. For your *Gray*, faintish Shadows, take White *English*-Oker and Indico, or sometimes Masticote. 5. For

Deep ſhadows, White, *Engliſh*-Oker, and Umber. 6. For *Dark-ſhadows* in mens Faces, Lake and Pink, which make an excellent fleſhy ſhadow. Many other Shadows you may temper up, but theſe are the chief; your own judgment, when you look upon the party to be Drawn, will beſt direct you, and inform your fancy better than a thouſand Words.

Thus are you abſolutely prepared of all neceſſaries; it is now fit time to go to work; and firſt we will begin with a Face.

CHAP. IV.

Of the Miniture or Limning of a Face in Water-Colours.

HAving all things in a readineſs, according to the directions before delivered, upon that part of your Card where you intend the Face of your Picture to be, lay that part of the Card over with your Colour that you have before prepared, anſwerable to the Complexion of the party; it being well tempered, pretty thin, with a Pencil bigger than ordinary, ſpread your Colour very even and thin, free from hairs or other ſpots, in your Pencil, over the place where you are to make the Face of your Picture. The Ground being laid, you may begin the Draught, the party being ready to ſit. Now to the finiſhing of a Face there will require three Operations or Sittings at

the

the leaſt. At the firſt ſitting you do only dead Colour the Face, and this takes about two hours time. At the ſecond ſitting you are to go over the Face more curiouſly, obſerving whatſoever may conduce to the graces or deformities of the party to be Drawn, together with a ſweet diſpoſe and couching of the Colours one within another, and this ſitting will take up ſome four or five hours. At the third ſitting you may finiſh the Face, this takes up ſome three hours time; in which you perfect what was before imperfect and rough, in putting the deep and dark ſhadows in the Face, as in the Eyes, Eye-brows hair, and Ears, which things are the laſt of the Work, and not to be done till the Hair-curtain or the back-ſide of the Picture, as alſo the Drapery be wholly finiſhed. Of theſe three ſittings or operations we ſhall make three Sections, as followeth: Then in the next Chapter ſhew how the Drapery and other ornaments are to be performed: then in the next Chapter ſomething of *Landskip* in Miniture, or Limning, and ſo conclude.

SECT. I. *At the firſt Operation or Sitting.*

YOur Ground for the general Complexion being laid, the firſt work at your firſt ſitting muſt be to draw the Porphile or out-lines of the Face, which you muſt do with Lake and White mingled; draw it very faintly, ſo that if you miſs of

your Proportion you may alter it with a deeper mixture of the same Colour.

The proportion of the Face being drawn, add to the former colour some Red-lead, temper it to the colour of the Cheeks, Lips, *&c.* but faintly, for (as I said before) you cannot lighten a deep Colour when you would. You must now put in the Red shadows in their due places, as in the Cheeks, Lips, tip of the Chin, about the Eyes, the tip of the Ears, and about the roots of the Hair. All these Shadows must be put in, not with the flat of the Pencil, but by small touches, after the manner of Hatching; in this manner going over the Face, you will cover your ground with these and the following shadows. In this Dead colouring you need not be over-curious, but strive to imitate Nature as near as may be, the roughness of the Colours may be mended at the second Operation.

Having put in your Red shadows in their due places, put in next your faint Blew shadows about the corners and balls of the Eyes, and your Grayish blew shadows under the Eyes and about the Temples; work these sweetly and faintly all over by degrees, heightning your shadows as the light falls; as also those harder shadows in the dark side of the Face, under the Eye-brows, Nose, Chin, and Neck, with some stronger touches in those places than on the light side of the Face. Bring all your Work together to an equal roundness, and give perfection to no particular part at this time, but view your object well, and see how near you hit the Life, not only in seeming likeness, but in roundness, boldness of posture, colouring, and such like. Having

Having wrought your fainter ſhadows into the Red ones before laid, you may now have a touch at the Hair, diſpoſing of it into ſuch curls, folds, or form as ſhall beſt grace the picture, or pleaſe the party. You muſt only draw the Hair with ſome colour ſuitable to the life, fill up the empty and void places with colour, and deepen it ſomewhat more ſtrongly than before in the deepeſt ſhadowed places. And let this be your firſt operation.

SECT. II. *At the ſecond Operation or Sitting.*

AT the ſecond ſitting let the party ſit in the ſame place and poſture as he did at the firſt ſitting, then obſerve and delineate with your Pencil thoſe varieties which Nature affords you; and as you did them but rudely before, you muſt now with the ſame Colours, in the ſame places, by working, drive and ſweeten the ſame Colours one into another, ſo that no lump of Colour, or any rough edge may appear in your whole work, and this work muſt be performed with a Pencil ſomewhat ſharper than that which you uſed before, ſo as your Shadows may be ſoft and ſmooth.

Having made this progreſs in the Face, leave it for this time, and go to the back-ſide of your Picture; which is ſometimes a piece of Landskip, but moſt commonly a Curtain of blew or red Sattin. If it be of blew Sattin, temper as much Biſe in a ſhell as will cover a Card, let it be moiſt, but well bound with Gum; then with a Pencil draw the Porphile or out-

out-line of your Curtain, as alſo of your Picture, then with a large Pencil lay over carefully, but thin and aery, the whole ground you mean to lay with Blew; then afterwards again with a large Pencil, as before, lay over the ſame again with a ſubſtantial body of colour, in doing of which you muſt be expeditious, keeping your Colour alwayes moiſt, letting no one part thereof be dry till you have covered the whole.

If your Curtain be Crimſon, then trace it out with Lake, and lay the ground with a thin colour; then where your ſtrong lights and reflections fall, there lay your lights with a thin and Wateriſh colour, and while the ground is yet wet, with a ſtrong and dark colour tempered reaſonable thick, lay the hard and ſtrong ſhadows cloſe by the other lights.

After you have thus laid the back-ſide of your Picture with Blew, or Red, or any other Colour, lay your Linnen with a fair White, and the Drapery likewiſe flat of the colour you intend it.

Then repair to the Face again, and view your object well, and ſee what ſhadows are too light or too deep for the Curtain behind, and the Linnen and Drapery may ſomewhat alter the property to the eye, and make the Picture appear otherwiſe than it did when there was only the colour of the Parchment about it; I ſay, view your Object well, and endeavour to reduce each Shadow to its due perfection: then draw the lines of the Eye-lids, and ſhadow the entrance into the Ear, the deepneſs of the Eye-brows, and thoſe more eminent notes

and

and marks in the Face, and these must be done with a very curious and sharp Pencil.

The Face done thus far, go over the Hair, heightning or deepning it as it appears in the life, casting over the ground some loose hairs, which will be pleasing, and make the Picture stand as it were at a distance from the Curtain.

To shadow your Linnen, use Black, White, a little Yellow, and less Blew; the Black must be deepned with Ivory-black, with which mix a little Lake and Indico. And thus far have we proceeded at the second operation.

SECT. III. *At the third Operation, or Sitting.*

THE third and last operation of the Face will be wholly spent in giving of strong touches where you see cause; and in observations necessary for the rounding of the Face, which will better be seen how to perform now, than before the Curtain, Drapery, and Linnen were laid. In this last sitting observe very diligently and exactly whatever may conduce to similitude, which is a main thing, as Scars or Moles in the Face, *&c.* casts of the Eye, circumflexions or windings of the mouth. Thus much for the third operation and finishing of the Face.

CHAP.

CHAP. V.

Of Drapery, and other ornaments belonging to a Picture in Miniture.

THE Face being compleatly finiſhed, and the Apparel rudely put on, let us now come to ſhew how to ſettle them in their right geers (as the ſaying is) as alſo to put on ſuch Ornaments as are uſual in Pictures of this nature. And theſe ſhall be expreſſed in the Sections following.

SECT. I. *Of Drapery in Limning.*

HAving laid a good, fat, and full Ground all over the Drapery you intend to make; if Blew, then all over with Biſe ſmoothly laid: the deepning muſt be Lake and Indico, the lightning White, very fine, faint, and fair, and in the extreme light places. What hath been ſaid of this *Blew Drapery*, the like is to be underſtood of all other Colours.

It is rare to ſee Drapery expreſſed by lightning of it with fine ſhell-Gold, with which it muſt be hatched and waſhed, what a luſtre it gives to well-coloured Drapery, either Crimſon, Green, or Blew, but much more if with the Ground it ſelf you mix Gold when you lay it on.

SECT.

SECT. II. *Of other Ornaments in Picture.*

1. IF the Body you are to draw be in Armour, lay liquid Silver all over for your ground, well dryed and burnished, shadow it with Silver, Indico, and Umber; work these shadows upon the Silver as the life directs you.

2. For Gold Armour, lay liquid Gold as you did the Silver, and shadow upon it with Lake, *English*-Oker, and a little Gold.

3. For Pearls, your ground must be Indico and White; your shadows Black and Pink.

4. For Diamonds, lay a ground of liquid Silver, deepen it with Cherrystone and Ivory-black.

CHAP. VI.

Of LANDKSIP.

THE bounds and limits of *Landskip* are inexpressible, they being as various as fancy is copious; I will give you only some general Rules for Painting of Landskip, and so conclude this third Book.

In painting of any Landskip always begin with the Sky, the Sun-beams, or lightest parts first; next the Yellow beams, which compose of Masticote and White; next your Blew Skies, with Smalt only. At your first colouring leave no part of your ground uncovered; but lay Your Colours smooth,

and

and even all over. Work your Sky downwards towards your Horizon fainter and fainter, as it draws nearer and nearer to the Earth; you must work your tops of Mountains and objects far remote, so faint that they may appear as lost in the Air: Your lowest and neareſt Ground must be of the colour of the earth, of a dark yellowish brown Green, the next lighter Green, and so succeſſively as they lose in their distance, they must abate in their colour. Make nothing that you see at a distance perfect; as if discerning a Building to be fourteen or fifteen miles off, I know not Church, Castle, House, or the like; so that in drawing of it you must expreſs no particulat sign, as Bell, Portcullis, or the like; but expreſs it in colours as weakly and faintly as your eye judgeth of it. Ever in your Landskip place light againſt dark, and dark againſt light, which is the only way to extend the proſpect far off, occasioned by oppoſing light to shadow; yet so as the shadows must lose their force in proportion as they remove from the eye, and the strongeſt shadow must always be neareſt hand.

OF

OF

PAINTING in OYL.

Book IV. Part IV.

Painting in Oyl is of moſt eſteem of any other Painting, and indeed it requireth the greateſt judgment in the performance, of any other kind of Painting. I ſhall (according to the weakneſs of my ability) deliver unto you ſuch Rules and directions, as being well minded and practiſed, may in a ſhort time make you a good proficient therein: Preſuppoſing you have read the three foregoing Books, eſpecially the Firſt and Third, and that you underſtand Draught of any kind, and alſo the nature (if not the manner of working with) Water-colours, yet at leaſt have read the Rules there delivered concerning the uſe of them, you may fall to practiſe the Painting in Oyl; in which obſerve the directions following.

CHAP.

CHAP. I.

Of the Names of your Colours, and how to Grind and order them.

The Names of the Colours in Oyl.

BLACKS.	WHITES.	GREENS.
Lamp-black.	*VVhite-Lead.*	*Verdigreaſe.*
Seacoal-black.		*Terra vert.*
Ivory-black.		*Verditer.*
Charcoal-black.		
Earth of Colen.		

BLEWS.	REDS.	YELLOWS.
Biſe.	*Vermilion.*	*Pink.*
Indico:	*Red-Lead.*	*Maſticote.*
Smalt.	*Lake.*	Engliſh *Oker.*
Ultamarine.	India-*Red.*	*Orpiment.*
	Ornotto.	Spruſe *Oker.*

Spaniſh *Brown*, *Burnt Spruſe*, *Umber.*

Theſe are the chief Colours that are uſed in Painting in Oyl, the moſt part of which are to be grownd very fine upon your Stone with a Muller, with Linſeed-Oyl: ſome muſt be Burnt before they be Grownd; others muſt be only temper'd upon the Pallat, and not grownd at all.

The Colours to be burnt are theſe:

Ivory, *Spruſe*, *Oker*, and *Umber.*

The

The Colours that are not to be Grownd at all, but only tempered with Oyl upon your Pallat, are these:

Lamp-black, *Verditer*, *Vermilion*, *Bise*, *Smalt*, *Masticote*, *Orpiment*, *Ultamarine*.

All the rest are to be Grownd upon your Stone with Linseed-Oyl; only White-Lead, when you are to use that for Linnen, you must grind it with Oyl of Walnuts, for Linseed-Oyl will make it turn yellow.

Those Colours that are to be Burnt, you must put them into a Crucible, such as *Gold-smiths* melt their Silver in, cover the mouth thereof with clay, and there let it burn red hot; when it is cold you must grind it upon your Stone with Oyl.

CHAP. II.

Of your Easell, Straining-frame, Cloath, Pallat, Pencils, and Stay.

I Might here describe the form and fashion of your *Easell* and *Pallat*, but I think, I need not; for he that ever saw a *Painter* at work must needs see these two Instruments; but what they are, I shall here describe.

An *Easell* is a frame made of wood, not much unlike a Ladder, only the sides are flat, and full of holes on either side, to put in two pins to set your Work upon higher or lower at pleasure; it is broader at the bottom than at the top, and on the

back-side there is a Stay, by the help of which you may set in the middle of any room, more upright or sloping at pleasure; when you do not use it, you may clap it together and set it behind any door, or hang it against any wall out of the way.

A *Pallat* is a thin piece of wood, and is necessary to be about twelve or fourteen inches long, and nine or ten inches broad, in form of an Egge, at the narrower end whereof is a hole made also of an Oval form, about an inch and a half in length, and an inch broad; this hole is to put in your thumb of your left hand, upon which you must always hold it when you are at work; out of the side of your Pallat near unto the thumb-hole is cut a notch, by the side of which the Pencils which you hold in your left hand also may come through, by which means you may take any of them out, or put another in at pleasure. These Pallats ought to be very thin and light, especially at the broad end, but toward the thumb-hole somewhat thick, yet not above half a quarter of an inch; the best wood to make them of is Pear-tree, or Walnut-tree.

A *Straining-frame* is nothing else but a frame made of wood, to which with nails you must fasten your Cloth that you are to paint upon; of these Frames you should have of several sizes, according to the bigness of your Cloths.

By your Cloth I mean *Cloth primed*. I could teach you how to prime it, but it is a moiling work, and besides, it may be bought ready primed cheaper and better than you can do it your self. Few Painters (though all can do it) prime it themselves, but buy it ready done.

Pencils,

Pencils, what they are I need not tell you, but what ſorts there are I will, becauſe I ſhall have occaſion to call them ſometimes by their names in the Diſcourſe following. There are of all bigneſſes, from a pin to the bigneſs of your finger.

There are ſeveral ſorts, thus called:

Ducks Quill fitched.
Ducks Quill pointed.
——— *Briſtle.*
Swans Quill fitched.
Swans Quill pointed.
——— *Briſtle.*
Hairing, or Jewelling-Pencils.

Gooſe Quill fitched.
Gooſe Quill pointed.
——— *Briſtle.*
Briſtle Pencils; ſome in Quills, others in Tinn-caſes bigger than Quills, and others in Sticks.

Your *Stay* or *Mol-Stick* is nothing elſe but a ſtick of Brazeel or ſuch like wood that will not eaſily bend, about a yard in length, at one end whereof tie a little ball of Cotton hard in a piece of Leather about the bigneſs of a Cheſnut; this ſtick when you are at work, you muſt hold alſo in your left hand, and laying the end which hath the leather ball, upon your cloth or frame, you may reſt your right arm upon it all the while you are at work. Thus being furniſhed with all manner of Colours, and other neceſſaries here deſcribed, you may begin to practiſe when you pleaſe; we will begin with a Face, in which obſerve the directions in the following Chapters.

CHAP. III.

How to order your Colours upon your Pallat, and how to temper Shadows for all Complexions.

Dispose your single Colours upon your Pallat in this order, laying them at a convenient distance one from another, so that they be not apt to intermix. First lay on your Vermilion, then lake, then burnt Oker, *India* Red, Pink, Umber, Blacks, and Smalt: lay the White next to your thumb, because it is oftenest used, for with it you lighten all your shadows; next to your White lay a stiff sort of Lake: this done, your Pallat it furnished with the single Colours belonging to a *Face*; then for the tempering of your Shadows to all Complexions, observe the following Directions.

1. *For a Fair Complexion.*

Take a little White, and twice as much Vermilion, and as much Lake temper these well together upon your Pallat with the flat blade of your knife; lay aside by it self on your Pallat the greatest quantity of this to be used for the deepest Carnation of the Face.

Put more White to that which remains, and temper that well with your knife, and being well tempered, lay some of that aside also for your lighter Carnation.

To the remainder add yet more White, and temper it upon your Pallat till you have brought it to the lighteſt colour of your Face.

Your Carnations being thus tempered, and orderly laid upon your Pallat, prepare your faint Shadows. For which,

Take Smalt, and mix it with a little White, which may ſerve for the Eyes; lay aſide the greateſt quantity, and to the reſt add a little Pink, this well tempered and laid by it ſelf, will ſerve for the faint greeniſh ſhadows in the Face.

Now prepare your deep Shadows; for which take Lake, Pink, and Black, of each a like quantity, temper all theſe together.

If the Parties Face you are to draw, or the Picture you are to copy, do require the Shadows to be redder than what you have tempered, then add a little more Lake; if yellower, add a little more Pink; if blewer or grayer, add a little more Black.

This done, your Pallat is prepared with Colours for any fair Face.

2. *For a more Brown or Swarthy Complexion.*

Lay your ſingle Colours on your Pallat as before, and in like manner temper them, only amongſt your White Lake, and Vermilion, put a little quantity of burnt Oker, to make it look ſomewhat Tawny.

Amongſt your heightnings, temper a little Yellow Oker, onely ſo much as may juſt turn the Colours.

For your very faint and very deep Shadows, the ſame as before.

3. *For a Tawny Complexion.*

The general Colours muſt be the ſame as before, only the Shadows are different, for you are to prepare them of Umber, and burnt Oker, which ſhadow will fit theſe Complexions beſt; if the ſhadow be not Yellow enough, add more Pink to it.

4. *For an Abſolute Black Complexion.*

Your dark Shadows muſt be the ſame as before; but for your heightnings, you muſt take White, burnt Oker, Lake, and Black, put but a little White in at firſt, but work it up by degrees, till you come to the lighteſt of all, as you did the contrary Colours for a fair Complexion.

Here note, that the ſingle Colours at firſt laid upon your Pallat being tempered together according to the former directions, ſerve for ſhadows for all Complexions.

Thus much concerning the diſpoſing and ordering of your *Pencils*, and what *Pencils* you are always to have in your hand all the while you are painting of a Face.

CHAP.

CHAP. IV.

What Pencils are uſeful for the Painting of a Face, and how to diſpoſe them.

EVery *Pencil* muſt have a ſtick of about nine inches long put into the Quill thereof, the farther end of which ſtick muſt be cut to a point.

When you are to begin any Face or other picture, lay together two Ducks quill fitch-Pencils, and two Ducks-quill-pointed-Pencils, alſo two Gooſe-quill fitched and two pointed, two Briſtles both alike; one Swans quill fitched, and another pointed; then a larger Pencil than any of theſe, which no Quill will hold, and therefore they make caſes of Tinn to put them in, you muſt have one of theſe Fitched, as alſo a Briſtle of the ſame bigneſs.

Your Pencils being in a readineſs, when you are to uſe them, your Pallat being upon your thumb, you muſt take your Pencils in your right hand, and put the ends of their ſticks into your left hand, keeping (when you work) the hairy ends at a diſtance, one from touching another, leſt the Colours in them intermingle.

Your Pallat of Colours being prepared, and your Pencils and Molſtick alſo in a readineſs, you are to uſe them as is hereafter taught.

CHAP. V.

How to Paint a FACE in Oyl-Colours.

YOur Cloth being ready primed, and ſtrained upon your Frame, take a knife, and with the edge thereof ſcrape over your Cloth, leſt any knots or the like ſhould be upon it, which may diſryme your Work.

Your Cloth being ready, draw forth your Eaſell, ſetting your Frame and Cloth upon it at a convenient height, ſo that you ſitting upon a ſtool, (level with the party you draw) may have the face of the picture equal, or ſomewhat higher than your own. Then ſet your Eaſell according to your light, which let be the ſame as I have deſcribed in *Limning*, namely, a Northerly light, free from ſhade of trees or houſes, but let it come in on your left hand, and ſo caſt the light towards the right hand.

All things being now in a readineſs, let the party you are to draw ſit before you in the Poſture he intends to be painted, about two yards diſtant from you.

Then with a piece of Chalk pointed, draw the proportion of the Face upon the Cloth. with the place of the Eyes, Noſe, Mouth, Ears, Hair, and whatſoever the poſture affordeth the Eye; here is no curioſity in this, only ſee that you keep a good *decorum*; if you miſs a good deal, the Colours will bring all to rights; but I ſuppoſe you know already whether

whether the design will make a Face proportionable to the party's. And so of that no more.

Your Design being drawn in Chalk, take one of your Swans-quill-pointed-Pencils, and some of your lightest Colour, and begin with the lightest parts in the Face, as the *heightning of the Forehead*, the *Nose*, and the *Cheek-bone* of the lightest side; when you have done the lightest parts, do the mean parts next; that is, those parts not altogether so light as the other, as the *Cheek-bone* of the fore-shortning or dark side, the *Chin*, and *over the upper Lip*; and so proceed gradually till you come to the Reddest parts of all.

Then lay your faint Greenish shadows in convenient places, and where you see cause to moderate harder shadows; but you must have a care you put not Green shadows where Red are required.

Thus all your faint or light beginnings being put in, take one of your Goose-quill-pointed-Pencils, or one of your Ducks quill-fitched, and begin at the Eyes to shadow with Lake, because you may easily overcome it if it should chance to be wrong: I do not mean you should go all over the Face with Lake, but trace out these parts of the Face therewith, as the *Eyes*, *Nose*, *Mouth*, *Compass of the Ear*, &c. This tricking or tracing out of these parts with Lake is to be done before you lay on any Colour, wiping it lightly over with a linnen rag, to prevent the overcoming of the other Colours.

Having thus put in all your Colours both light and dark, take the great Fitch-pencil, either that in the plate, or that in the stick, and sweeten the Colours

lours therewith; by ſweetning, is meant the going over theſe ſeveral Shadows thus laid with a clean ſoft Pencil, which with orderly handling will drive and intermix the Colours one into another, that they will appear as if they were all laid on at once, and not at ſeveral times. If this great fitch'd Pencil be too big, you may uſe a leſſer; but note, that the bigger Pencils you uſe, the ſweeter and better your Work will lie; and it is as eaſie to handle a great Pencil as a little one, if you uſe your ſelf to it.

At your Second ſitting (for this is enough at once) begin again with your clean Pencils of ſuch bigneſs as the piece you are to work upon does require. Then the party ſitting in the ſame poſition, and at the ſame diſtance as before, the light alſo being the ſame, Obſerve well the party, and ſee what defects you find in the Work at your firſt ſitting, and amend them; then heighten or deepen your Shadows according as you ſee occaſion.

This done, take a Gooſe-quill Briſtle and put in the Hair about the Face, and rub in the greater Hair with the greater Briſtle, and heighten it up with your Gooſe-quill Pencil.

CHAP.

CHAP. VI.

Of Garments of ſeveral colours, and of their proper Colouring.

THE next thing I ſhall ſpeak of, ſhall be of *Drapery* or *Garments*, and the true and proper manner of Colouring of them. And

1. For a Red Garment.

For a light-red Garment, firſt dead-colour it with Vermillion, and when you would finiſh it, glaze it over with Lake, and heighten it with White.

For a Scarlet.

If you will have your Garment Scarlet, Vermilion it ſelf muſt be the lighteſt, and it muſt be deepned with Lake or *India* Red.

For a Crimſon Velvet.

Lay Vermilion, burnt Oker, or *India* Red, for the dead colour, glaze it with Lake, and touch it up with Vermilion.

A ſad Red.

Indian Red heightned with White.

Note, that all your deepnings ſhould or ought to be deepned with Black, Pink, and Lake, tempered together.

2. *For*

2. *For Green Garments.*

The beſt Green for holding, is Biſe and Pink, heighten it with Maſticote, and deepen it with Indico and Pink.

For Green Velvet.

Lay the dead colour of White with a little Lampblack, glaze it with Verdigreaſe, deepen it with Indico and Pink, and heighten it with Pink and White.

3. *For Blew Garments.*

Take Indico and White, firſt lay the White in its due places, and then your mean colour, namely Indico and White mixed in their due places, then deepen it with Indico only, and when it is dry glaze it with Ultamarine, which will never fade; you may glaze it with Smalt or Biſe; but Smalt will turn Black, and Biſe will turn Green.

But if you will have a Blew Garment without glazing, lay the ground as before, with Indico and White, heighten and deepen it with the ſame Colours.

4. *For Yellow Garments.*

For a Yellow Garment, Maſticote, yellow Oker, and Umber; lay the dead colour of Maſticote and White in the lighteſt places, Oker and White in the mean places, and Umber in the darkeſt places; when it is dry glaze it with Pink.

If you would not glaze it, uſe only Maſticote heightned

heightned with White, and deepned in the mean ſhadows with Oker, and in the deep ſhadows with Umber.

5. *For Black Garments.*

Let the dead colour be Lamp-black, and ſome Verdigreaſe; when that is dry, go over it with Ivory-black and Verdigreaſe; before you go over it the ſecond time, heighten it with White.

6. *For Purple Garments.*

Oyl Smalt, tempered with Lake and White-Lead, heighten it with White-Lead.

7. *Orange Colour.*

Red-Lead and Lake, lay the lighteſt parts of all with Red-Lead and White, the mean parts with Red-Lead alone, the deeper parts with Lake, if need require heighten it with White.

8. *Hair Colour.*

Umber and White for the ground, Umber and Black for the deeper ſhadows, Umber and *Engliſh* Oker for mean ſhadows, for heightning White with a little *Engliſh* Oker.

CHAP.

CHAP. VII.

To temper Colours for ſeveral occaſions.

IN *Landskip*, variety of Colours are required; I will therefore begin with thoſe firſt.

Colours for the Skie.

For the Aiery skie that ſeems a great way off, take Oyl-Smalt or Biſe, and temper it with Linſeed-Oyl; for a Red sky uſe Lake and White, and for Sun-beams or Yellow clouds appearing at Sun-riſing or ſetting, uſe Maſticote and White; for Clouds in a ſtorm, or for a Night-sky, uſe Indico deepned with Black, and heightned with White.

Colours for Trees.

For ſome uſe Lake, Umber, and White; for others Charcoal and White, for others Umber, Black, and White with ſome Green; you may add Lake and ſometimes Vermilion among your other Colours.

Of ſeveral Greens in Landskip.

For a light Green uſe Pink and Maſticote heightned with White.

For a ſad Green, Indico and Pink heightned with Maſticote.

You may make Greens of any degree whatſoever.

In Painting of Landskip I shall say nothing here, that which I have already said in the Sixth Chapter of the Book of *Limning* being sufficient.

Things meet to be known.

OYL-Colours if they be not used presently, will have a skin grow over them, and in time will quite dry up; wherefore if you have any quantity of Colours grownd, to keep them from skinning or drying, set them in a vessel of fair water, three or four inches under water, and they will not skin nor dry.

If your Grinding-stone be foul, grind *Curriers* shavings upon it, afterwards crumbs of bread, and it will fetch off the filth.

If your Pencils be foul, dip the ends of them in Oyl of Turpentine, and squeeze them between your fingers.

When you work in Oyl, let a little pot of Oyl stand by you, into which dip your Pencil, and break it by the side of the pot, and the Colour will go out that is within it, and you may use it with another Colour.

The

The Diſcovery.

How to Cleanſe an Old Painting, ſo as to preſerv the Colours; with cautions to thoſe that throug ignorance have in ſtead of Cleanſing, quite Deface or irrecoverably loſt the Beauty of good colours in a Old piece of Painting.

To Cleanſe any very old Picture in Oyl.

TAke your pureſt white Wood-aſhes you ca get, and ſift them very well in a fine law ſieve; or elſe ſome Smalt, which is as ſome call i Powder blew, and with a fine Spunge and fai water waſh the Picture you intend gently over but be ſure you have a great care of the Shadows for by the ignorance of many perſons many goo Picture hath been abuſed; but having carefull waſh'd it, as before mentioned, take ſome of thef Verniſhes, of which there be ſeveral, but ſome ar more prejudicial than others, therefore chuſe thoſ which may upon occaſion be waſh'd off again

As Gum-water purely ſtrain'd, or pure Size gelly, or the whites of Eggs well beaten; all thef will waſh off.

Your common Verniſh will verniſh over an very dark part of a Picture.

But your diſtill'd Verniſh is the beſt of all; th will not waſh off.

But obſerve, that when you have waſh'd the P ſtur

ćture, you muſt dry it very well with a clean cloth very dry before you varniſh it.

Divers there be which have pretended to be well skill'd or knowing in the Cleanſing of Pictures, and skill in Painting; and have undertaken the ſpoyling of things they have been unworthy to underſtand; as with Sope, or Aſhes, and a Bruſh, and divers other inventions, by their ignorance to deface and ſpoyl thoſe things which otherwiſe might have been worth great value, and in ſtead of hindering the Painter of his employment, have indeed created them new work.

H OF

OF WASHING or COLOURING OF Maps, and Printed Pictures.

The Fifth Book.

TO Wash *Maps* or *Printed Pictures* is nothing else but to set them out in their proper Colours, which to perform well is a very fine thing. I have seen a Printed Picture printed upon fine Parchment, only washed with Water-colours, which could hardly be distinguished from a Limned piece; and there are many now in *England* very excellent at it. If any ingenious spirit that delights in Picture, and hath not time or opportunity to study to be a proficient in Painting in Oyl or Limning, I would advise him to practice this, which is very delightful, and quickly attained; the manner of performing of it I shall here in this Book teach.

CHAP.

CHAP. I.

What things are neceſſary to be always ready for Waſhing of Maps or Pictures.

SECT. 1. *Of Colours for waſhing.*

HERE note, that all the Colours that are mentioned in the Second Chapter of the Third Book concerning *Limning in Water-Colours*, are all to be uſed in Waſhing or Colouring of *Pictures*; wherefore provide your ſelf of thoſe Colours, grind them, waſh them, and ſteep and temper them according as you are directed in that Second Chapter; I ſay, you muſt have all theſe Colours in a readineſs; and for Colouring of *Prints* ſome other Colours, namely theſe that follow, which how to order I will anon ſhew you.

Colours to be uſed in Waſhing, which are not uſed in Limning.

BLACKS.	REDS.	BLEWS.
Printers Black, or Franckford-*black*, to be had of the *Plate-Printers.*	*Vermilion.* *Roſſet.*	*Verditure.* *Litmos.* *Flory.*

YELLOWS. *Gumbooge, Yellow- berries, Orpiment.*

Alſo theſe ;

Brazeel and *Log-wood* ground, and *Turnſoil.*

Of theſe Colours above-mentioned, *Printers Black, Vermilion. Roſſet, Verditure,* and *Orpiment* are to be Ground as is taught in the ſecond Section of the ſecond Chapter of the third Book, page 70. and therefore, I ſay, Grind them as you are there taught.

Now for the other Colours above-mentioned, they are to be ordered ſeveral ways, as followeth. And

1. Of *Litmos*, how to order it.

Take fine *Litmos* and cut it in ſmall pieces, then lay it in ſteep the ſpace of twenty four hours at leaſt, in a weak Water of Gum-Lake, [*The making of Gum-Lake water is taught before in the firſt Chapter of the third Book, pag. 66.*] it will be a pure Blew Water, good to Waſh withall.

2. *Of Flory Blew.*

Take *Flory Blew* and grind it with the white of an Egg, [the white of the Egg with a ſpoon in a Porrenger till it become a clear Water.]

Flory thus ground, if you add thereto a little Roſſet, it maketh a light Violet-colour.

If you mix with it both Red and white Lead, it maketh a Crane Feather-colour.

It

It, and Pink, Masticote, or Gum-booge make a fair Green.

3. *Of Gumbooge.*

Take *Gumbooge* and dissolve it in fair spring-water, and it maketh a most beautiful and transparent Yellow.

4. *Of Yellow-Berries.*

Take *Yellow-Berries*, bruise them a little, and let them steep in Allum-water all night, in the morning you will have a very fair Yellow to Wash withall.

5. *Of Turnsoil.*

Turnsoil is made of pieces of Linnen cloth dyed of a kind of Violet-colour.

Take a dish and put some sharp Vinegar therein, together with your Turnsoil, then set the dish over a gentle fire in a chafingdish till the Vinegar boyl and be coloured, then take out the Turnsoil and squeeze it into the Vinegar, to which put a little Gum-*Arabick* to dissolve; it is an excellent good liquor to shadow upon any Carnation or Yellow.

6. *Of Brazeel.*

Take *Brazeel* grownd, to which put a quantity of small Beer, and as much Vinegar, set them in a pan upon a soft fire, and there let it boyl gently a good while, then put therein some fine powder of

Allum to raiſe the Colour, as alſo ſome Gum *Arabick* to bind it; boyl it ſo long till it taſt ſtrong on the tongue, it maketh a very tranſparent Red.

7. *Of Logwood.*

If you boyl *Log-wood* grownd in all reſpects as you did your Brazeel, it will make a very fair tranſparent Purple-colour.

SECT. II. *Of other neceſſaries.*

1. *Of Allum-water, how to make it.*

TAke a quarter of a pint of Allum, beat it to powder, and boyl it in a quart of fair Water till it be diſſolved.

With this Water wet over your Pictures that you intend to colour, for it will keep the Colour from ſinking into the Paper, and it will add a luſtre unto the Colours, and make them ſhew fairer; and it will make them continue longer without fading; you muſt let the Paper dry of it ſelf after you have wetted it, before you lay on the Colours, or before you wet it again; for ſome Paper will need wetting four or five times.

But if you intend to Varniſh your Pictures after you have Coloured them, you mūſt firſt Size them, that is, rub them over with white Starch new made with a Bruſh very fine, inſtead of doing them with Allum-

Allum-water; be ſure you ſize it all over, or elſe the Varniſh will ſink through; if your Varniſh be too thick, put into it ſo much Turpentine-oyl as will make it thinner.

2. *How to make Size.*

Take ſome Glew, and let it ſteep all night in water to make it the readier to melt in the morning, then ſet it on a coal of fire to melt, to try whether it be neither too ſtiff nor too weak; for the meaneſt is beſt; take a ſpoonful thereof and ſet it in the air to cool, or fill a Muſſel-ſhell of it, and let it ſwim in cold water to cool the ſooner; if it be too ſtiff, when it is cold put more water to it; if too weak, then put more Glew to it; and when you uſe it make it luke-warm.

This is to wet your Cloths in; if you intend to paſte your Maps or Pictures upon Cloth, you may uſe white Starch to wet your ſheet, and wring it out and ſtrain it upon a frame, or nail it upon a wall or board, ſo paſte your Maps or Pictures thereon.

3. *How to temper Gold to Write with a Pen or Pencil.*

Take the ſweepings of leaf-Gold, ſuch as *Book-binders* ſweep off their Books, or leaf-Gold it ſelf, and with ſtiff Gum-water, with a pretty deal of white Salt, grind them very well together, and put it into a glaſs, and put a quantity of fair water as will ſufficiently cover it, to make the ſtiff

water dissolve, that so the Gold may settle to the bottom, and let it stand four or five days, then pour away the water, and put clean water to it again, if you find the Gold dirty, refresh it again the third time; then pour it away and take clean water again, and a little Salt-*Armoniack* and great Salt, and put it in a gally-pot, and stop it very close, and let it stand a week, then take it out, and put it into a a piece of sheeps skin when the grain is taken off, tie it up close, and hang it up that the Salt may fret from it; then take the Gold and temper it with the white of an Egg or Gum-water: so use it with Pen or Pencil.

4. *Of Pencils.*

Provide *Pencils* of all sorts, both pointed and fitch; a large Brush to paste your Maps upon Cloth withall; another to wet your Paper with Allum water: a third to Starch the face of yout Picture withall before you colour it; and a fourth Brush to Varnish withal.

CHAP.

CHAP. II.

Of other Colours for Washing, both Simple and Compounded.

1. *How to make a Green colour of Copper-plates.*

TAke any shreds of Copper, and put distilled Vinegar to them, set them in a warm place until the Vinegar become Blew, then pour out that Vinegar into another pot well leaded, and pour more Vinegar upon the Copper, letting that stand until it be of a Blew colour; then pour it into the former liquor; this you may do so often until you have liquor enough, then let the liquor stand in the sun or upon a slow fire till it be thick enough, and it will be a good Green.

2. *To make a Green another way.*

The best is *Cedar-green*, but that is dear; therefore you may take green Bise and steep it in Vinegar, then strain it through a linnen rag, then grind it well with fair water, and put to it a little Honey, and let it be well dryed, and when you use it mix it with a litte Gum-water.

3. *Another Green.*

Take the juyce of Rew, and a little Verdigrease,

and a little Saffron, and grind them well together, and uſe it with a little Gum-water.

4. *For light Greens.*

Sap-greens, *Flower de Biſe*, or *Tawny-green*, theſe need no grinding, only ſteep'd in fair water, *Verditer* and *Ceruſs* mixt with a little *Copper-green*, makes a good light colour.

5. *To ſhadow Greens.*

Indico and Yellow-berries will do very well.

6. *Greens for Landskips and Rocks.*

Temper your Green with white Pink, Biſe, Maſticote, Smalt, or Indico, or Ceruſs.

Blew Verditer mixt with a few Yellow-Berries, make another Green.

7. *To make a Blew.*

There is *Venice*-Ultamarine, but this is very dear; there are Biſes of ſeveral ſorts, deeper or paler; there is Smalt and Verditer; grind any of theſe with Gum-water.

8. *Of ſhadowing Blews.*

There is Indico, Litmos, or Flory, take any of theſe, they need no grinding, ſteep them in the lees

lees of Sope-aſhes; when you uſe them, put Gum-water to them with diſcretion.

9. *To make a Brown.*

Take Ceruſs, Red-Lead, *Engliſh*-Oker, and Pink.

10. Spaniſh *Brown.*

It's a dirty colour, yet of great uſe if you burn it till it be red hot; but if you would colour any hare, horſe, or dog, or the like, you muſt not burn it, but to ſhadow Vermilion, or to lay upon any dark ground behind a Picture, or to ſhadow Berries in the darkeſt places, or to colour any wooden Poſte, Wainſcot, bodies of Trees, or any thing elſe of Wood, or any dark ground on a Picture.

11. *How to make an Orange-colour.*

Red-Lead is the neareſt to an Orange, put a few Yellow-berries into it, makes a good Orange.

12. *A Fleſh-colour.*

Take of White and a little Lake, and ſome Red-Lead mixed, you may make it light or red as you pleaſe, by adding more or leſs White in ſhadowing the Cheeks and other places, if you would have a ſwarthy complexion; and to diſtinguiſh the Mans fleſh from the Womans, mingle a little yellow Oker among your Fleſh.

Co-

13. *Colours for the Skie.*

Light Maſticote, or Yellow-berries, and White for the loweſt and lighteſt places; red Poſſet, White for the next degree; blew Biſe and White for the other; and blew Biſe for the higheſt, for want of Biſe uſe Verditer; theſe muſt be worked together; you muſt not receive any ſharpneſs in the edg of your Colour, and they muſt be ſo laid on, that you cannot perceive where you firſt began to lay them, you muſt ſo drown them one in another.

14. *To make colours for Precious ſtones.*

Verdigreaſe with Varniſh makes an *Emerald*, and with *Florence* Lake it makes a *Ruby*, and with Ultramarine it makes a *Saphire*.

15. *Colours for Landskips.*

For the ſaddeſt Hills uſe burnt Umber, for the lighteſt places put ſome Yellow to the burnt Umber; and for the other Hills lay Copper-green thickned on the fire, or in the Sun; for the next Hills further off, mix ſome Yellow-berries with Copper green, and let the fourth part be done with green Verditer; and the furtheſt, fainteſt places with the blew Biſe, and for want of that, with blew Verditer mingled with White for the ligheſt places, and ſhadowed with blew Verditer in the ſhadows indifferent thick; the Highways do with Red-Lead

Lead and White, and for variety uſe yellow Oker, and ſhadow it with burnt Umber, and you may uſe it for ſandy Rocks and Hills; the Rocks you may do with ſeveral colours, in ſome places Black and White, in other places with Red-Lead and White, and ſome with Blew and White, and other colours, ſuch as you judge are convenient, and do moſt reſemble Rocks, and let them be pleaſant colours; the Water muſt be black Verditer and White, ſhadowed with green and with blew Verditer; when the Banks caſt a green ſhadow upon the Water, and when the water is dark in the ſhadows, then ſhadow it with a little Indico and Green thickned, and ſome blew Verditer.

16. *Colours for Buildings*

When you colour Buildings, do it with as much variety of pleaſant colours as poſſible can be imagined, yet not without reaſon, and let diſcretion rule you in mixing your Colours; in colouring of Buildings you may uſe ſometimes White and Black for the Wall, Conduits, or other things; for Brick-houſes and others you may uſe Red-Lead and White; when many Houſes ſtand together, colour them with various colours as you can; about Buildings uſe ſometimes Umber and White, and ſometimes Lake and White, or Red-Lead and White for variety.

17. *How*

17. *How to Shadow every colour in Garments, or Drapery.*

Take this Rule, that every Colour is made to ſhadow it ſelf, or if you mingle it with White for the light, and ſo ſhadow it with the ſame colour unmingled with White, elſe take off the thinneſt of the colour for the light, and ſo ſhadow it with the thickeſt bottom of the colour; if you will have your ſhadow of a darker colour, then the colour it ſelf is to ſhadow the deepeſt places.

CHAP. III.

General Rules to be obſerved.

1. SAp-green is only uſed to ſhadow other Greens, and not to be laid for a ground in any Garment.

2. Lake muſt not be ſhadowed with any colour, for it is a dark Red; but for variety you may ſhadow it ſometimes with Biſe, or blew Verditer; which will make it ſhew like changeable Taffata.

3. Blew Verditer is ſhadowed with thin Indico.

4. Blew Biſe is ſhadowed with Indico in the darkeſt colours; Yellow-berries, the natural ſhadow for it is Umber, but for beauties ſake it is ſeldom ſhadowed with Umber, but with Red-Lead; the darkeſt touches with *Spaniſh*-Brown; and for varieties

varieties ſake it's ſhadowed with Copper-geen thick, and with blew Biſe, or blew Verditer.

What Colours ſets off beſt together.

1. Whites are very uſeful in all Colours, and ſets off Black and Blew very well; but Blacks are not much uſed, but upon neceſſary occaſions in ſome things, as your judgement ſhall direct you.

2. Reds ſets off well with Yellows.

3. Yellows ſets off well with Reds, ſad Blews Greens, Browns, Purples.

4. Blews ſets off well with Reds, Yellows, Whites, Browns, and Blacks; but Blews ſet not off well with Greens and Purples.

5. But Greens ſets off well with Purples and Reds.

SECT. II. *Directions for the Mixing of your Colours.*

TO mix any Colour, be careful that you make it not too ſad; when you mix your Colours be careful you put not your Pencils out of one Colour into another, for it will ſpoil and dirty your other Colours, except you waſh your Pencils clean.

When you mix any Colours, ſtir them well about; the water being well coloured, pour it out into a Shell, and ſtir the reſt of the Colours and mingle them together; pour out the Colour firſt, that you may the better know what quantity of the ſadder will ſerve.

FINIS.